BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
REGULAR MEETING
October 16, 2013

A meeting of the Bay Area Air Quality Management District Board of Directors will be held at 9:45 a.m. in the 7th Floor Board Room at the Air District Headquarters, 939 Ellis Street, San Francisco, California.

Questions About an Agenda Item

The name, telephone number and e-mail of the appropriate staff Person to contact for additional information or to resolve concerns is listed for each agenda item.

Meeting Procedures

The public meeting of the Air District Board of Directors begins at 9:45 a.m. The Board of Directors generally will consider items in the order listed on the agenda. However, any item may be considered in any order.

After action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

This meeting will be webcast. To see the webcast, please visit http://www.baaqmd.gov/The-Air-District/Board-of-Directors/Agendas-and-Minutes.aspx at the time of the meeting.

Public Comment Procedures

Persons wishing to make public comment must fill out a Public Comment Card indicating their name and the number of the agenda item on which they wish to speak, or that they intend to address the Board on matters not on the Agenda for the meeting.

Public Comment on Non-Agenda Matters, Pursuant to Government Code Section 54954.3 For the first round of public comment on non-agenda matters at the beginning of the agenda, ten persons selected by a drawing by the Clerk of the Boards from among the Public Comment Cards indicating they wish to speak on matters not on the agenda for the meeting will have three minutes each to address the Board on matters not on the agenda. For this first round of public comments on non-agenda matters, all Public Comment Cards must be submitted in person to the Clerk of the Boards at the location of the meeting and prior to commencement of the meeting. The remainder of the speakers wishing to address the Board on non-agenda matters will be heard at the end of the agenda, and each will be allowed three minutes to address the Board at that time.

Members of the Board may engage only in very brief dialogue regarding non-agenda matters, and may refer issues raised to District staff for handling. In addition, the Chairperson may refer issues raised to appropriate Board Committees to be placed on a future agenda for discussion.

Public Comment on Agenda Items After the initial public comment on non-agenda matters, the public may comment on each item on the agenda as the item is taken up. Public Comment Cards for items on the agenda must be submitted in person to the Clerk of the Boards at the location of the meeting and prior to the Board taking up the particular item. Where an item was moved from the Consent Calendar to an Action item, no speaker who has already spoken on that item will be entitled to speak to that item again.

Up to ten (10) speakers may speak for three minutes on each item on the Agenda. If there are more than ten persons interested in speaking on an item on the agenda, the Chairperson or other Board Member presiding at the meeting may limit the public comment for all speakers to fewer than three minutes per speaker, or make other rules to ensure that all speakers have an equal opportunity to be heard. Speakers are permitted to yield their time to one other speaker; however no one speaker shall have more than six minutes. The Chairperson or other Board Member presiding at the meeting may, with the consent of persons representing both sides of an issue, allocate a block of time (not to exceed six minutes) to each side to present their issue.

BOARD OF DIRECTORS REGULAR MEETING AGENDA

WEDNESDAY **BOARD ROOM**
OCTOBER 16, 2013 **7TH FLOOR**
9:45 A.M.

CALL TO ORDER

Opening Comments — Chairperson, Ash Kalra
Roll Call — Clerk of the Boards
Pledge of Allegiance

PUBLIC COMMENT ON NON-AGENDA MATTERS

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3
For the first round of public comment on non-agenda matters at the beginning of the agenda, ten persons selected by a drawing by the Clerk of the Boards from among the Public Comment Cards indicating they wish to speak on matters not on the agenda for the meeting will have three minutes each to address the Board on matters not on the agenda. For this first round of public comments on non-agenda matters, all Public Comment Cards must be submitted in person to the Clerk of the Board at the location of the meeting and prior to commencement of the meeting.

CONSENT CALENDAR (ITEMS 1 – 5)

Staff/Phone (415) 749-

1. Minutes of the Special Board of Directors Meeting of September 9, 2013
   Clerk of the Boards/5073

2. Board Communications Received from September 9, 2013 through October 15, 2013
   J. Broadbent/5052
   jbroadbent@baaqmd.gov

   A copy of communications directed to the Board of Directors received by the Air District from September 9, 2013 through October 15, 2013, if any, will be at each Board Member's place.

3. Quarterly Report of California Air Resources Board Representative - Honorable John Gioia
   J. Broadbent/5052
   jbroadbent@baaqmd.gov

4. Notice of Violations Issued and Settlements in Excess of $10,000 in August and September 2013
   B. Bunger/4797
   jbroadbent@baaqmd.gov

   In accordance with Resolution No. 2012-08, the Board of Directors will receive a list of all Notices of Violation issued and all settlements for amounts in excess of $10,000 during the months of August and September 2013.

5. Air District Personnel on Out-of-State Business Travel **J. Broadbent/5052**
jbroadbent@baaqmd.gov

In accordance with Section 5.4 (b) of the Air District's Administrative Code, Fiscal Policies and Procedures Section, the Board is notified of Air District personnel, if any, who have traveled on business out-of-state in the preceding month.

COMMITTEE REPORT(S)

6. Report of the **Stationary Source Committee** Meeting of September 16, 2013
CHAIR: J. Gioia **J. Broadbent/5052**
jbroadbent@baaqmd.gov

7. Report of the **Mobile Source Committee** Meeting of September 26, 2013
CHAIR: S. Haggerty **J. Broadbent/5052**
jbroadbent@baaqmd.gov

The Committee recommends Board of Directors' approval of the following items:

A) Projects with Proposed Grant Awards Over $100,000 :

1. *Approve Carl Moyer Program (CMP) projects with proposed grant awards over $100,000; and*

2. *Authorize the Executive Officer/Air Pollution Control Officer (APCO) to enter into agreements for the recommended CMP projects.*

PUBLIC HEARING

8. Public Hearing to Consider Adoption of Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries and Approval of a California Environmental Quality Act (CEQA) Negative Declaration **J. Broadbent/5052**
jbroadbent@baaqmd.gov

The Board of Directors will consider adoption of proposed amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries and approval of a California Environmental Quality Act (CEQA) Negative Declaration.

CLOSED SESSION

9. **EXISTING LITIGATION (Government Code Section 54956.9(a)**
Pursuant to Government Code Section 54956.9(a), a need exists to meet in closed session with legal counsel to consider the following case(s):

A) **Lehigh Southwest Cement Company v. Bay Area AQMD,** Santa Clara County Superior Court, Case No. 112CV236602.

B) **California Building Industry Association v. Bay Area AQMD,** Alameda County Superior Court, Case No. RG-10548693; California Court of Appeal, First Appellate District, Case No. A135335.

OPEN SESSION

PUBLIC COMMENT ON NON-AGENDA MATTERS

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3
Speakers who did not have the opportunity to address the Board in the first round of comments on non-agenda matters will be allowed three minutes each to address the Board on non-agenda matters.

BOARD MEMBERS' COMMENTS

Any member of the Board, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)

OTHER BUSINESS

10. Report of the Executive Officer/APCO

11. Chairperson's Report

12. Time and Place of Next Meeting: *Wednesday, November 6, 2013, 939 Ellis Street, San Francisco, California 94109 at 9:45 a.m.*

13. Adjournment

CONTACT THE CLERK OF THE BOARDS **(415) 749-5073**
939 ELLIS STREET SF, CA 94109 **FAX: (415) 928-8560**
BAAQMD homepage:
www.baaqmd.gov

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities. Notification to the Executive Office should be given at least 3 working days prior to the date of the meeting so that arrangements can be made accordingly.

Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the Air District's headquarters at 939 Ellis Street, San Francisco, CA 94109, at the time such writing is made available to all, or a majority of all, members of that body.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET, SAN FRANCISCO, CALIFORNIA 94109
FOR QUESTIONS PLEASE CALL (415) 749-5016 or (415) 749-4941

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF AIR DISTRICT MEETINGS

OCTOBER 2013

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets on the 1st & 3rd Wednesday of each Month)*	**Wednesday**	**16**	**9:45 a.m.**	**Board Room**
Board of Directors Executive Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**21**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Stationary Source Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**21**	**10:30 a.m.**	**Board Room**
Board of Directors Budget & Finance Committee *(Meets on the 4th Wednesday of each Month)* **- CANCELLED**	**Wednesday**	**23**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Climate Protection Committee *(Meets on the 3rd Thursday of every other month)*	**Wednesday**	**23**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Mobile Source Committee *(Meets on the 4th Thursday of each Month)*	**Thursday**	**24**	**9:30 a.m.**	**Board Room**
Board of Directors Public Outreach Committee *(At the Call of the Chair)*	**Thursday**	**31**	**9:30 a.m.**	**4th Floor Conf. Room**

NOVEMBER 2013

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets on the 1st & 3rd Wednesday of each Month)*	**Wednesday**	**6**	**9:45 a.m.**	**Board Room**
Advisory Council Regular Meeting *(Meets on the 2nd Wednesday of each Month)*	**Wednesday**	**13**	**9:00 a.m.**	**Board Room**
Board of Directors Executive Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**18**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Stationary Source Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**18**	**10:30 a.m.**	**Board Room**

November 2013 Calendar Continues on Next Page

NOVEMBER 2013

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets on the 1st & 3rd Wednesday of each Month)*	**Wednesday**	**20**	**9:45 a.m.**	**Board Room**
Board of Directors Climate Protection Committee *(Meets 3rd Thursday of every other month)*	**Thursday**	**21**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Budget & Finance Committee *(Meets on the 4th Wednesday of each Month)*	**Wednesday**	**27**	**9:30 a.m.**	**4th Floor Conf. Room** **And via videoconference at Santa Rosa Junior College Doyle Library, Room 4243 1501 Mendocino Avenue Santa Rosa, CA**
Board of Directors Mobile Source Committee *(Meets on the 4th Thursday of each Month)*	**Thursday**	**28**	**9:30 a.m.**	**Board Room**

DECEMBER 2013

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets on the 1st & 3rd Wednesday of each Month)*	**Wednesday**	**4**	**9:45 a.m.**	**Board Room**
Board of Directors Executive Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**16**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Stationary Source Committee *(Meets on the 3rd Monday of each Month)*	**Monday**	**16**	**10:30 a.m.**	**Board Room**
Board of Directors Regular Meeting *(Meets on the 1st & 3rd Wednesday of each Month)*	**Wednesday**	**18**	**9:45 a.m.**	**Board Room**
Board of Directors Budget & Finance Committee *(Meets on the 4th Wednesday of each Month)*	**Wednesday**	**25**	**9:30 a.m.**	**4th Floor Conf. Room** **And via videoconference at Santa Rosa Junior College Doyle Library, Room 4243 1501 Mendocino Avenue Santa Rosa, CA**
Board of Directors Mobile Source Committee *(Meets on the 4th Thursday of each Month)*	**Thursday**	**26**	**9:30 a.m.**	**Board Room**

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/Air Pollution Control Officer

Date: September 24, 2013

Re: Minutes of the Board of Directors Special Meeting of September 9, 2013

RECOMMENDED ACTION

Approve the attached draft minutes of the Board of Directors Special Meeting of September 9, 2013.

DISCUSSION

Attached for your review and approval are the draft minutes of the Board of Directors Special Meeting of September 9, 2013.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Rex Sanders

Attachments

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 749-5073

Board of Directors Special Meeting
Monday, September 9, 2013

DRAFT MINUTES

CALL TO ORDER: Chairperson Kalra called the meeting to order at 10:11 a.m.

OPENING COMMENTS: None.

ROLL CALL

Present: Chairperson Ash Kalra; Secretary Carole Groom; and Directors John Avalos, Teresa Barrett, Tom Bates, David Hudson, Carol Klatt, Eric Mar, Jan Pepper, Mary Piepho, Mark Ross, Brad Wagenknecht and Shirlee Zane.

Absent: Vice-Chairperson Nate Miley; and Directors Susan Adams, John Gioia, Scott Haggerty, Liz Kniss, Edwin Lee, Tim Sbranti, Jim Spering and Ken Yeager.

PLEDGE OF ALLEGIANCE: Chairperson Kalra led the Pledge of Allegiance.

PUBLIC COMMENT ON NON-AGENDA MATTERS: None.

PROCLAMATIONS/AWARDS

Chairperson Kalra, on behalf of the Board of Directors, recognized Barbara Coler, Air Quality Program Manager of Compliance & Enforcement, who is retiring after completing four years of dedicated service with the Air District. Ms. Coler addressed the Board in appreciation. Director Ross also recognized Ms. Coler for her service. Jack Broadbent, Executive Officer/Air Pollution Control Officer (APCO), recognized Ms. Coler for her service on behalf of staff.

CONSENT CALENDAR (ITEMS 1 – 5)

1. **Minutes of the Board of Directors Regular Meeting of August 7, 2013;**
2. **Board Communications Received from August 7, 2013, through September 6, 2013;**
3. **Air District Personnel on Out-of-State Business Travel;**
4. **Notice of Violations Issued and Settlements in Excess of $10,000 in July 2013; and**
5. **Set a Public Hearing for October 16, 2013, to Consider Adoption of Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Boilers, Steam Generators and Process Heaters in Petroleum Refineries and Approval of a California Environmental Quality Act (CEQA) Negative Declaration.**

Public Comments:

Guy Bjerke, Manager, Bay Area Region and State Safety Issues, Western States Petroleum Association, addressed the Board neutrally regarding agenda item 5, Set a Public Hearing for October 16, 2013, to Consider Adoption of Proposed Amendments to Regulation 9, Rule 10: NOx and CO from Boilers, Steam Generators and Process Heaters in Petroleum Refineries and Approval of a CEQA Negative Declaration, and to express concerns about adoption of the proposed amendments.

Board Comments:

Director Pepper said, regarding agenda item 1, Minutes of the Board of Directors Regular Meeting of August 7, 2013, to amend page 6, third paragraph, to insert "energy" before "field..."

Board Action: Director Wagenknecht made a motion to approve Consent Calendar Items 1, 2, 3, 4 and 5, including the amendment to the Minutes as stated by Director Pepper; Director Ross seconded; and the motion carried unanimously.

PRESENTATION

6. Update on the Regional Bicycle Share Pilot Project

Jean Roggenkamp, Deputy APCO, introduced Karen Schkolnick, Acting Director of Strategic Incentives, who gave the staff presentation Bay Area Bike Share Regional Pilot Project, including an overview of the pilot goals, objectives and pricing, a summary of the launch, media coverage and initial statistics, and next steps.

Board Comments:

Chairperson Kalra expressed his optimism for the future of the program and commended the efforts of all those involved.

Director Bates asked about how one becomes a member, for details regarding the mechanics of lending, about the need for future sponsorship, about how best to prepare for system expansion, namely to the East Bay and the University of California, Berkeley, and about the likelihood of the Air District's continued involvement as the primary operator after the conclusion of the pilot phase, which questions were answered by Mss. Schkolnick and Roggenkamp and Mr. Broadbent.

Director Zane requested system expansion to Sonoma County, noted the history of bicycle advocacy in Sonoma County and asked staff to develop use metrics relative to the project, including estimates relative to greenhouse gas emissions avoided through the use of the bicycles.

Director Piepho requested system expansion to the Interstate 680 commuter corridor and the installation of docking stations at the San Francisco Civic Center Bay Area Rapid Transit station and Air District office. Director Piepho urged for an awareness of private enterprise and a continued effort to avoid the provision of services offered by nongovernmental entities.

Director Hudson asked if participation in the bike share project qualifies as satisfying the requirements of the commuter benefits program being developed and if there is an additional pricing step between 3-days use and annual membership, which questions were answered by Ms. Schkolnick.

Director Pepper congratulated staff on the launch and asked for an explanation of the envisioned use of the system, which question was answered by Mss. Schkolnick and Roggenkamp.

Director Avalos expressed excitement about the launch and asked whether commuter benefits cards can be used for payment of use fees or memberships, which question was answered by Ms. Schkolnick.

Director Ross commended the program and asked whether helmets are required by law, what a user can do if they are unable to find an empty dock for the return of a bicycle at their intended destination and whether the Air District will consider pant leg straps as promotional items, which questions were answered by Ms. Schkolnick.

Director Wagenknecht asked for the delivery of updates to the Mobile Source Committee as the pilot progresses.

Public Comments: None.

Board Action: None; informational only.

CLOSED SESSION

The Board adjourned to Closed Session at 10:57 a.m.

7. EXISTING LITIGATION (Government Code Section 54956.9(a))

Pursuant to Government Code Section 54956.9(a), the Board met in closed session to discuss with legal counsel the following cases:

California Building Industry Association v. Bay Area AQMD, Alameda County Superior Court, Case No. RG-10548693; California Court of Appeal, First Appellate District, Case No. A135335.

8. CONFERENCE WITH REAL PROPERTY NEGOTIATOR (Government Code Section 54956.8)

Pursuant to Government Code Section 54956.8, the Board met in closed session to confer with real property negotiators to discuss the disposition and leaseback of real property as follows:

Property:	939 Ellis Street, San Francisco, CA
Air District Negotiators:	Jack P. Broadbent, Executive Officer/Air Pollution Control Officer (APCO) Jeffrey McKay, Deputy APCO Tom Christian, Cassidy Turley Ric Russell, Cassidy Turley
Negotiating Parties:	Heights Properties, LLP

Under Negotiation: Price and Terms

OPEN SESSION

The Board resumed Open Session at 11:48 a.m. with Brian Bunger, District Counsel, reporting out on Board actions as follows:

Agenda item 7, Existing Litigation: no reportable action.

Agenda item 8, Conference with Real Property Negotiator: The Board authorized the Executive Officer to execute a Purchase and Sale Agreement and form of Lease Back with Heights Properties, LLP, for 939 Ellis Street which will place the transaction in a due diligence and contingency period and if the buyer finds it is ultimately satisfied following that phase the transaction will be final and the terms will be made available at that time.

PUBLIC COMMENT ON NON-AGENDA MATTERS: None.

BOARD MEMBERS' COMMENTS:

Director Hudson reported on his experience at the AWMA Annual Conference.

Director Zane asked staff to provide updates on the expansion of the wood chip pilot program and the provision of funding for technical support of agriculturalists, as initially requested by the Board on June 19, 2013. Chairperson Kalra echoed the request. Mr. Broadbent said the update would be delivered to the Stationary Source Committee or Board.

Director Piepho asked that the component of the above Board request regarding consideration of fire district concerns be included in the update.

OTHER BUSINESS

9. Report of the Executive Officer/APCO:

Mr. Broadbent presented a summary of the Summer Ozone Season, and a briefing on the Rim Fire and introduced Stephanie Osaze, Finance Manager of Administrative Services.

10. Chairperson's Report:

Chairperson Kalra announced the cancellation of the Board of Directors Regular Meetings on September 18 and October 2, 2013.

11. Time and Place of Next Meeting: Wednesday, October 16, 2013, Bay Area Air Quality Management District Headquarters, 939 Ellis Street, San Francisco, California 94109 at 9:45 a.m.

12. Adjournment: The Board meeting adjourned at 11:54 a.m.

Sean Gallagher
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: October 7, 2013

Re: Board Communications Received from September 9, 2013 through October 15, 2013

RECOMMENDED ACTION

None; receive and file.

DISCUSSION

Copies of communications directed to the Board of Directors received by the Air District from September 9, 2013 through October 15, 2013, if any, will be at each Board Member's place at the October 16, 2013 Board meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Maricela Martinez
Reviewed by: Rex Sanders

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

TO: Members of the Board of Directors

FROM: Supervisor John Gioia
Board Member

DATE: October 8, 2013

SUBJECT: QUARTERLY REPORT OF MY ACTIVITIES AS AN AIR RESOURCES BOARD MEMBER

The list below summarizes my activities as an Air Resources Board member from July 1 thru September 30, 2013:

July Activities

17th — Meeting with Jaguar Land Rover, re ZEV Amendments

24th — Air Resources Board Staff Briefings

24th — CalETC re AB 118

25th — Meeting of the Air Resources Board, Sacramento

31st — Tesla Motors Tour and Meeting with Elon Musk, CEO

August Activities

No meeting of the Air Resources Board in August

15th — ARB Staff Briefing on Alternative Fuel Certification Procedures for On-Road Motor Vehicles and Engines

15th — Call with Neil Prescott re Alternative Fuel Certification Procedures for On-Road Motor Vehicles and Engines

21st — Dinner with Clean Fuels Campaign

26th	Meeting with Southern California Edison re Cap and Trade, Emissions Standards, and ZEV's

September Activities

16th	Meeting with Independent Energy Producers Assoc. re Legacy Contracts Under Cap and Trade Program
18th	Air Resources Board Staff Briefings
26th	Meeting of the Air Resources Board, Sacramento
26th	Meeting with California Electric Vehicle Coalition re ZEV Amendments
26th	Meeting with Clean Car Coalition
27th	Meeting with PG&E, re Cap and Trade Program

Attachments: Public Agendas

California Environmental Protection Agency

Air Resources Board

PUBLIC MEETING AGENDA

July 25, 2013

Webcast
Board Book

LOCATION:
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814
http://www.calepa.ca.gov/EPAbldg/location.htm

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
(This facility is accessible to persons with disabilities.)

TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: http://www.arb.ca.gov/lispub/comm/bclist.php

July 25, 2013
9:00 a.m.

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #

13-7-2: Public Hearing to Consider Amendments to Certification and Test Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities and Cargo Tanks

Staff will present to the Board proposed amendments to certification and test procedures for vapor recovery equipment used on cargo tanks and at gasoline dispensing facilities. The proposed amendments will address technical deficiencies with current test procedures and will reduce the regulatory burden on cargo tank operators but will not impose any new performance standards or specifications. In addition, the presentation will provide an overview of the scope of benefits of the current vapor recovery program, as well as describe potential improvements to the program and additional rulemaking under consideration.

More Information *Staff Presentation*

13-7-3: Public Hearing to Consider the Adoption of the Regulatory Proposal to Determine and Control Evaporative Emissions From Off-Highway Recreational Vehicles

Staff will present to the Board a proposal for controlling evaporative emissions from off-highway recreational vehicles. Off-highway recreational vehicles include off-road motorcycles, all-terrain vehicles, sand cars, and specialty vehicles. The proposal sets a 1 gram/day total organic gas diurnal emissions standard that will significantly reduce evaporative emissions from these vehicles, especially during storing periods.

More Information *Staff Presentation*

13-7-5: Public Meeting to Consider the Approval of the Proposed Assembly Bill 118 Air Quality Improvement Program Funding Plan for Fiscal Year 2013-14

Staff will present to the Board the Proposed Air Quality Improvement Program (AQIP) Funding Plan for Fiscal Year 2013-14, which provides staff's recommendations for allocating up to

$35 million identified in the Governor's proposed Budget for AQIP. AQIP, created under Assembly Bill 118 (2007), provides incentive funding through 2015 for clean vehicle and equipment projects. Staff recommends directing most of the AQIP funding to continueincentives for the purchase of zero-emission passenger cars and new hybrid and zero-emission trucks and buses. A portion of funding would also be allocated to advanced technology demonstration projects and a loan guarantee program for on-road trucks. To provide greater flexibility, a small portion of funding will not be initially allocated so that funding can be assigned to projects as important needs are identified.

More Information *Staff Presentation*

13-7-6: Public Meeting to Consider Adoption of Proposition 1B Program Funding Awards From Fiscal Year 2013-14 (Year 4) Funds to Reduce Emissions From Goods Movement and Updates to the Program Guidelines for Implementation

Staff will present to the Board for consideration a list of grant awards for local agency projects based on monies received from the Spring 2013 bond sale and any additional funds received in 2013 to reduce freight-related emissions in the four priority trade corridors.

More Information *Staff Presentation*

CLOSED SESSION

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation, and as authorized by Government Code section 11126(a):

POET, LLC, et al. v. Goldstene, et al., Superior Court of California (Fresno County), Case No. 09CECG04850; plaintiffs' appeal, California Court of Appeal, Fifth District No. F064045.

Rocky Mountain Farmers Union, et al. v. Goldstene, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09-CV-02234-LJO-DLB; interlocutory appeal, U.S. Court of Appeal, Ninth Circuit Nos. 09-CV-02234 and 10-CV-00163.

American Fuels and Petrochemical Manufacturing Associations, et al. v. Goldstene, et al., U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; interlocutory appeal, U.S. Court of Appeal, Ninth Circuit, Case Nos. 09-CV-02234 and 10-CV-00163.

Association of Irritated Residents, et al. v. United States Environmental Protection Agency, 2011 WL 310357 (C.A.9), (Feb. 2, 2011).

California Dump Truck Owners Association v. California Air Resources Board, U.S. District Court (E.D. Cal. Sacramento), Case No. 2:11-CV-00384-MCE-GGH; plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 13-15175.

California Construction Trucking Association v. United States Environmental Protection Agency, U.S. Court of Appeals, Ninth Circuit, Case No. 13-70562.

Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2010-00082774.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board, San Francisco Superior Court, Case No. CGC-12-519554, plaintiffs' appeal, California Court of Appeal, First District, No. A138830.

California Chamber of Commerce et al. v. California Air Resources Board, Sacramento Superior Court, Case 34-2012-80001313.

Morning Star Packing Company, et al. v. California Air Resources Board, et al., Sacramento Superior Court, Case No. 34-2013-800001464.

Delta Construction Company, et al. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 11-1428.

City of Los Angeles through Department of Water and Power v. California Air Resources Board, et al., Los Angeles Superior Court, Case No. BS140620.

OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.

TO ELECTRONICALLY SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:

http://www.arb.ca.gov/lispub/comm/bclist.php

(Note: not all agenda items are available for electronic submittals of written comments.)

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SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

California Environmental Protection Agency
Air Resources Board

PUBLIC MEETING AGENDA

September 26, 2013

Webcast
Board Book

LOCATION:
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814
http://www.calepa.ca.gov/EPAbldg/location.htm

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
(This facility is accessible to persons with disabilities.)

TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: http://www.arb.ca.gov/lispub/comm/bclist.php

September 26, 2013
9:00 a.m.

CONSENT CALENDAR:
The following item on the consent calendar will be presented to the Board immediately after the start of the public meeting, unless removed from the consent calendar either upon a Board member's request or if someone in the audience wishes to speak on it.

Consent Item #

13-8-1: Public Meeting to Consider Appointment of a New Member to the Research Screening Committee

Staff will recommend the appointment of Dr. William Eisenstein to fill the vacancy left by the resignation of Dr. Charles Kolstad of the Stanford Institute for Economic Policy Research. The Board's Research Screening Committee consists of scientists, engineers, and others who are knowledgeable, technically qualified, and experienced in air pollution research. Dr. Eisenstein is the Executive Director for the University of California, Berkeley's Center for Resource Efficient Communities.

More Information

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #

13-8-2: Public Hearing to Consider Proposed Amendments to the Alternative Fuel Conversion Certification Procedures for On-Road Motor Vehicles and Engines

Staff will present to the Board proposed amendments to title 13, California Code of Regulations, Sections 2030 and 2031, the current alternative fuel certification procedures. Staff believes that the proposed changes are needed to update the existing alternative fuel conversion procedures and will meet industry requests to streamline alternative fuel certification requirements.

More Information *Staff Presentation*

13-8-3: Public Hearing to Consider Proposed Amendments to the Antiperspirants and Deodorants Regulation; Consumer Products Regulation; Aerosol Coating Products Regulation; the Tables of Maximum Incremental Reactivity Values; Test Method 310, and Proposed Repeal of the Hairspray Credit Program

The primary purpose of the proposed amendments is to reduce the air quality impacts of emissions of volatile organic compounds (VOC) in consumer products and aerosol coatings. The proposed amendments also incorporate requirements for non-aerosol "multi-purpose solvents" and "paint thinners" sold in the South Coast Air Quality Management District (SCAQMD) needed to ensure that expected benefits from the SCAQMD rule are achieved. Repeal of the Hairspray Credit Program is also proposed because its usefulness has expired. Other amendments would clarify and streamline existing provisions, and incorporate additional testing procedures for multi-purpose solvents and paint thinners sold in the SCAQMD. The proposed amendments would reduce VOC emissions by 4 tons per day statewide.

More Information *Staff Presentation*

13-8-5: Update to the Board on the Air Quality Improvement Program

Staff will update the Board on the funding status of the Air Quality Improvement Program (AQIP) and make recommendations for amendments to the approved Fiscal Year 2013-14 AQIP Funding Plan. The amendments include a proposal to transfer funding from demonstration projects and AQIP reserves to the AQIP truck loan program to better support consumer demand in that program.

More Information *Staff Presentation*

CLOSED SESSION

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation, and as authorized by Government Code section 11126(a):

POET, LLC, et al. v. Goldstene, et al., Superior Court of California (Fresno County), Case No. 09CECG04850; plaintiffs' appeal, California Court of Appeal, Fifth District No. F064045.

Rocky Mountain Farmers Union, et al. v. Goldstene, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09-CV-02234-LJO-DLB; interlocutory appeal, U.S. Court of Appeal, Ninth Circuit Nos. 09-CV-02234 and 10-CV-00163.

American Fuels and Petrochemical Manufacturing Associations, et al. v. Goldstene, et al., U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; interlocutory appeal, U.S. Court of Appeal, Ninth Circuit, Case Nos. 09-CV-02234 and 10-CV-00163.

Association of Irritated Residents, et al. v. United States Environmental Protection Agency, 2011 WL 310357 (C.A.9), (Feb. 2, 2011).

California Dump Truck Owners Association v. California Air Resources Board, U.S. District Court (E.D. Cal. Sacramento), Case No. 2:11-CV-00384-MCE-GGH; plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 13-15175.

California Construction Trucking Association v. United States Environmental Protection Agency, U.S. Court of Appeals, Ninth Circuit, Case No. 13-70562.

Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2010-00082774.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board, San Francisco Superior Court, Case No. CGC-12-519554, plaintiffs' appeal, California Court of Appeal, First District, No. A138830.

California Chamber of Commerce et al. v. California Air Resources Board, Sacramento Superior Court, Case 34-2012-80001313.

Morning Star Packing Company, et al. v. California Air Resources Board, et al., Sacramento Superior Court, Case No. 34-2013-800001464.

Delta Construction Company, et al. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 11-1428.

City of Los Angeles through Department of Water and Power v. California Air Resources Board, et al., Los Angeles Superior Court, Case No. BS140620.

OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.

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SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: October 9, 2013

Re: Notices of Violation Issued and Settlements in Excess of $10,000 in August and September 2013

RECOMMENDED ACTION

None; receive and file.

DISCUSSION

In accordance with Resolution No. 2012-08, attached to this Memorandum is a listing of all Notices of Violation issued, and all settlements for amounts in excess of $10,000 during the calendar months of August and September 2013.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The amounts of civil penalties collected are included in the Air District's general fund budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian C. Bunger

Attachments

NOTICES OF VIOLATION ISSUED

The following Notice(s) of Violation were issued in August 2013:

Alameda

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Discovery Foods LLC	B6663	Hayward	A50209A	8/7/13	2-1-307	> ringlemann 1.0 >4 min PC#21948

Contra Costa

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Air Liquide Large Industries US LP	B7419	Rodeo	A52372A	8/30/13	2-6-307	Excess ID-06G06; CO > 10 ppm / 1-hour average
Air Liquide Large Industries US LP	B7419	Rodeo	A53227A	8/30/13	1-522.6	Source Test ID-102-13; Failure to Maintain Monitors (NOx, O2, Flow)
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A52373A	8/15/13	2-6-307	Excess ID-06H80; CO > 32 ppm / Calendar day
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A52374A	8/15/13	2-6-307	Excess ID-06J52; NOx > 7 ppm / 1-hour average
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A52375A	8/15/13	10	Excess ID-06J77; SO2 > 250 ppm / 12-hours (NSPS)
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A52376A	8/15/13	2-6-307	Excess ID-06J99; NOx > 7 ppm / 1-hour average
Plains Products Terminals LLC	A0745	Richmond	A52960A	8/8/13	8-33-309	8-33-309.5 source 1 pressure vacuum valve hydrocarbon emissions greater than 3000ppm
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A51599A	8/8/13	9-2-301	>60ppb/3min - waterfront GLM, >30ppb H2S / rolling 60min avg

Tesoro Refining & Marketing Company LLC	B2758	Martinez	A51600A	8/8/13	9-2-301	>60ppb / 3min waterfront GLM
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A52478A	8/20/13	2-1-301	No A/C parametric monitoring
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A52478B	8/20/13	2-1-302	No Permit to Operate parametric monitoring
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53128A	8/6/13	9-2-301	Waterfront GLM Exceedance (06J85)
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53129A	8/6/13	2-6-307	NOx excess (3) pc19199-H4 (06E34)
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53130A	8/6/13	8-18-302	LDAR inspection and repair problems
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53130B	8/6/13	8-18-304	LDAR inspection and repair problems

Marin

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
City of San Rafael Dept of Public Works	B7910	San Rafael	A52684A	8/20/13	1-301	multiple odor complaints confirmed to lagoon
City of San Rafael Dept of Public Works	B7910	San Rafael	A52685A	8/20/13	1-301	multiple odor complaints confirmed to lagoon
City of San Rafael Dept of Public Works	B7910	San Rafael	A52686A	8/20/13	1-301	multiple odor complaints confirmed to lagoon

San Francisco

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Olympic Tug & Barge	V9271	San Francisco	A51736A	8/12/13	8-44-301	8-44-301 lightering
Olympic Tug & Barge	V9271	San Francisco	A51736B	8/12/13	8-44-0	8-44-404 lightering
Olympic Tug & Barge	V9271	San Francisco	A51736C	8/12/13	8-44-502	8-44-502 lightering
San Francisco Unified School District	H0351	San Francisco	A51089A	8/15/13	9/7/2000	9-7-404 failed to register all 2-10MMBtu/hr boilers in due time

San Mateo

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Makoni Construction	T0423	Menlo Park	A49611A	8/16/13	11-2-304.1	RACM not in containers - duct wrap / insulation

Santa Clara

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
City of Palo Alto Landfill	A2721	Palo Alto	A51071A	8/7/13	8-34-301.2	2,500ppm landfill gas leak well#E34
Gas Recovery Systems, Inc	B1670	San Jose	A52014A	8/8/13	2-6-307	late submittal of source test results
Los Esteros Critical Energy Facility	B3289	San Jose	A52015A	8/23/13	2-6-307	Late reporting of CEM Excess

Los Esteros Critical Energy Facility	B3289	San Jose	A52015B	8/23/13	1-522.7	Late reporting of CEM Excess

Solano

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Valero Refining Company - California	B2626	Benicia	A52828A	8/6/13	8-5-306	leaking P/V valve on tanks >500ppm

District Wide

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Fuel Delivery Services	S2614	Stockton	A53107A	8/6/13	8-33-305	CT#203428, failure to meet year round decay rate

The following Notice(s) of Violation were issued in September 2013:

Alameda

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
A B & I Foundry	A0062	Oakland	A51250A	9/11/13	2-6-307	operating temp >500F (PC 24639; Dev 3611)
E&B Natural Resources	B9613	Livermore	A52057A	9/27/13	8-5-301	exceeded TVP
Morton Salt, Inc	A0079	Newark	A53202A	9/12/13	2-6-307	Source test failure

Contra Costa						
Site Name	**Site #**	**City**	**NOV #**	**Issuance Date**	**Regulation**	**Comments**
Antonio Garcia	W1181	Antioch	A52274A	9/9/13	5-301	Illegal burn documented by CCE. IR#2013-3044499
Chevron Products Company	A0010	Richmond	A52250A	9/9/13	12-11-502.3.1	Missed flare sample on 4/25/13
Chevron Products Company	A0010	Richmond	A52251A	9/9/13	2-1-301	T-1493 does not meet exemption per 2-1-123.3.3
Chevron Products Company	A0010	Richmond	A52251B	9/9/13	2-1-302	T-1493 does not meet exemption per 2-1-123.3.3
Chevron Products Company	A0010	Richmond	A52450A	9/11/13	8-5-304	Stopped fill of T-3104 due to discovery of holes in fire suppression system
Chevron Products Company	A0010	Richmond	A52451A	9/24/13	8-5-328.1	Tank de-gassing contractors using incorrect calibration gas concentrations (not per EPA Method 21)
Equilon Enterprises LLC	B1956	Martinez	A52637A	9/13/13	8-33-309	Front vapor hose leaking 6000 ppm
John Muir Medical Center	B0742	Walnut Creek	A53083A	9/11/13	2-1-307	Failed source test CO, permit limits
Lloyd Harris	W1178	Antioch	A52273A	9/9/13	5-301	Illegal burn documened by CCE. IR#2013-3056335
Phillips 66 Carbon Plant	A0022	Rodeo	A53229A	9/5/13	2-6-307	All PM not routed to Baghouse (A-10)
Phillips 66 Company	A0061	Richmond	A52961A	9/26/13	8-5-328.1	using incorrect calibration gas concentrations (not per EPA Method 21)

Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A53228A	9/5/13	2-6-307	Excess ID 06G88 CO > 32 ppm/day (Peak = 82 ppm)
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A53230A	9/24/13	10	Open-Ended Line - Missing plug on 1/2" valve (Tag #21909)
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A53231A	9/24/13	2-6-307	Source Test #OS-4500 - PM10 Emissions >3.36 lbs/day (8.29 lbs/day)
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A53232A	9/24/13	8-5-328.1	Degas Contractors failed to comply with EPA Method-21 Calibration
SFD	W1183	Antioch	A52275A	9/9/13	5-301	Illegal burn documented by CCE. IR#2013-3045799
Shell Martinez Refinery	A0011	Martinez	A52634A	9/13/13	9-2-301	GLM H2S excess; late
Shell Martinez Refinery	A0011	Martinez	A52635A	9/13/13	10	LDAR 3rd party audit
Shell Martinez Refinery	A0011	Martinez	A52635B	9/13/13		Reg 8-18 LDAR 3rd party audit
Shell Martinez Refinery	A0011	Martinez	A52636A	9/13/13	2-6-307	<8% coke moisture
Tesoro Refining & Marketing Company LLC	B2758	Pacheco	A53131A	9/24/13	8-5-328.1	No written degas concentration records
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53132A	9/24/13	8-8-313	No control on bypass from V-8. Continuing NOV from A52495.
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53133A	9/24/13	1-522.4	Failure to report INOP 06L59
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53134A	9/24/13	2-6-307	Excess CO. Condition 19199 A4 06E40
Tesoro Refining & Marketing Company LLC	B2758	Martinez	A53135A	9/24/13	9-10-305	Excessive CO concentrations 06E25

San Mateo

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
City of Foster City	A8353	Foster City	A52294A	9/25/13	2-1-307	exceed testing hours limit
San Francisco International Airport	A1784	San Francisco	A52295A	9/26/13	2-1-301	No A/C and no P/O for new tanks and modifications
San Francisco International Airport	A1784	San Francisco	A52295B	9/26/13	2-1-302	No A/C and no P/O for new tanks and modifications

Santa Clara

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
Lehigh Southwest Cement Company	A0017	Cupertino	A52611A	9/9/13	2-6-307	VE greater than Ringelmann 1
Lehigh Southwest Cement Company	A0017	Cupertino	A52612A	9/9/13	2-6-307	Failed Title V permit condition
Northrop Grumman Systems Corporation	B0861	Sunnyvale	A51090A	9/12/13	2-6-307	NH3 emissions exceeded during source test OS-4637

Solano

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comments
City of Vallejo Water Division	E1454	Vallejo	A52981A	9/11/13	2-1-301	7 nat gas engines operating with no permit
City of Vallejo Water Division	E1454	Vallejo	A52981B	9/11/13	2-1-302	7 nat gas engines operating with no permit

Valero Refining Company - California	B2626	Benicia	A52829A	9/23/13	9-2-301	Recorded H2S Excess on GLM#3 (8303)
Valero Refining Company - California	B2626	Benicia	A52830A	9/23/13	2-6-307	Excess NOX at furnace F-4460
Valero Refining Company - California	B2626	Benicia	A52831A	9/23/13	8-5-307	Cracked Tank Shell Resulting in Organic Vapor Lost To Atmosphere
Valero Refining Company - California	B2626	Benicia	A52832A	9/23/13	8-18-301	Leaking Equipment >100 ppm on 72 In Line (Stormwater Bypass)
Valero Refining Company - California	B2626	Benicia	A52833A	9/23/13	8-5-402	Failure to perform full tank seal inspection on IFR w/in 10 years
Valero Refining Company - California	B2626	Benicia	A52834A	9/23/13	8-18-401	Misclassified and Undocumented components discovered during 2Q-13 Fugitives Evaluation
Valero Refining Company - California	B2626	Benicia	A52834B	9/23/13	8-18-402.1	Misclassified and Undocumented components discovered during 2Q-13 Fugitives Evaluation

SETTLEMENTS FOR $10,000 OR MORE REACHED

There were 1 settlement(s) for $10,000 or more completed in August 2013.

On August 6, 2013, the District reached a settlement with City and County of San Francisco Public Utilities Commission – Southeast Water Pollution Control Plant for $15,000, regarding the allegations contained in the following 1 Notice of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A52135A	9/6/12	7/12/12	2-1-307	reg 2-1-307 failure to meet permit conditions

There were 3 settlement(s) for $10,000 or more completed in September 2013.

1) On July 16, 2013, the District reached a settlement with City and County of San Francisco (SFO Airport) for $21,000, regarding the allegations contained in the following 2 Notices of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A52286A	2/15/13	2/17/12	2-6-307	permit condition #18329, H2S in digester gas >2,250 ppm deviation reports not submitted
A52287A	3/19/13	2/26/13	2-6-307	Permit Condition #18329 H2S in digester gas > 2,250ppm

2) On September 13, 2013, the District reached a settlement with Evergreen Oil, Inc. for $13,000, regarding the allegations contained in the following 5 Notices of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A49088A	6/22/11	3/28/11	2-1-307	Source test NTV-940, excess NOx and PM10
A49089A	1/11/12	12/30/11	2-1-307	ST >60 days past startup 10/31/11
A49096A	2/11/13	10/17/12	2-1-307	NOx emissions, ST#NTV-1191
A49099A	5/30/13	2/7/13	2-1-307	NOx emissions 93.8ppm st#NTV-1242
A49100A	6/14/13	6/14/13	1-301	5 confirmed odor complaints

3) On September 24, 2013, the Air District reached a settlement with Plains Products Terminal LLC for $159,000, regarding the allegations contained in the following 5 Notices of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A51592A	2/9/12	1/8/12	2-6-307	No vapor recovery during tank fill
A51592B	2/9/12	1/8/12	8-5-306	No vapor recovery during tank fill
A51594A	5/9/12	3/29/12	2-6-307	Condition #1253 II D1i

A51594B	5/9/12	3/29/12	8-5-306	A-1 off for 7 min / overpressure vents
A51596A	1/18/13	9/20/12	2-6-307	Title5 P.C.1253 Sec.II.D.1.i
A51596B	1/18/13	9/20/12	8-5-301	thermal oxidizer A1 off - tanks vent
A51597A	1/18/13	10/24/12	2-6-307	Title5 P.C.1253 Sec.II.D.1.i
A51597B	1/18/13	10/24/12	8-5-301	thermal oxidizer A1 off - tanks vent
A51598A	1/18/13	11/5/12	2-6-307	Title5 P.C.1253 Sec.II.D.1.i
A51598B	1/18/13	11/5/12	8-5-301	thermal oxidizer A1 off - tanks vent

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: October 16, 2013

Re: Air District Personnel on Out-of-State Business Travel

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

In accordance with Section 5.4 (b) of the District's Administrative Code, Fiscal Policies and Procedures Section, the Board is hereby notified that the District personnel listed below have traveled on out-of-state business.

The report covers the out-of-state business travel for the period August 1, 2013 through September 30, 2013. Out-of-state travel is reported in the month following travel completion; however, the month of August which shows no activity is also being presented along with the September report.

DISCUSSION:

- AUGUST 2013

  There were no reportable activities.

- SEPTEMBER 2013

  Jack Broadbent, Executive Officer/APCO, attended 2013 National Association of Clean Air Agencies Fall Membership Meeting in Baltimore, MD from September 22, 2013 through September 25, 2013.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Stephanie Osaze
Reviewed by: Jack M. Colbourn

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/Air Pollution Control Officer

Date: September 18, 2013

Re: Report of the Stationary Source Committee Meeting of September 16, 2013

RECOMMENDED ACTION

The Stationary Source Committee (Committee) received only informational items and has no recommendations of approval by the Board of Directors.

BACKGROUND

The Committee met on Monday, September 16, 2013. The Committee received the following reports:

A) Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Boilers, Steam Generators and Process Heaters in Petroleum Refineries; and

B) Overview of Energy Issues.

C) Report on the Compliance Assurance Program's Rule Effectiveness Studies

Attached are the staff reports presented in the Committee packet. Consideration of the item regarding the Compliance Assurance Program's Rule Effectiveness Studies was deferred until the next meeting of the Committee.

Chairperson John Gioia will give an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

A) None.

B) None.

C) None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Rex Sanders

Attachments

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 3, 2013

Re: Proposed Amendments to Regulation 9, Rule 10: NOx and CO from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

RECOMMENDED ACTION:

None; receive and file.

BACKGROUND

Regulation 9, Rule 10 (Regulation 9-10) limits nitrogen oxides (NOx) and carbon monoxide (CO) emissions from boilers, steam generators and process heaters operating in petroleum refineries. This regulation was adopted on September 16, 1992 and last amended on December 15, 2010 to implement Control Measure SSM 10 in the 2010 Clean Air Plan.

Regulation 9, Rule 10 includes a refinery-wide, average NOx emission limit for most heaters that were permitted prior to 1994, and includes source-specific NOx limits for the remaining pre-1994 heaters that are classified as CO boilers. These limits have reduced refinery heater NOx emissions by as much as 26 tons per day, which is the largest NOx reduction attributable to a single Air District NOx rule.

During the rule development process that led up to the 2010 amendments, refinery operators and Air District staff discussed possible Regulation 9, Rule 10 amendments that would incentivize replacement of older, less efficient heaters. Replacement of older heaters is desirable because new heaters have significantly lower NOx emissions than the allowable limit in Regulation 9, Rule 10, as well as better energy efficiency, resulting in lower carbon dioxide (CO_2) emissions. CO_2 reductions will be necessary to meet State AB32 requirements.

Subsequent to the 2010 amendments, Air District staff has been consulting with refinery operators to develop a heater replacement incentive provision. Staff has also proposed amendments to improve the enforceability of the rule and collect information for future rule development. Staff is preparing amendments for a public hearing.

DISCUSSION

Staff will provide the Committee with the following information:

- A description of affected equipment and their emissions;
- Background on current rule requirements;
- Proposed amendments to Regulation 9, Rule 10;
- Rule development process to date; and
- Remaining steps to a public hearing.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Julian Elliot
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 3, 2013

Re: Overview of Energy Issues

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

On August 7, 2013, the Board of Directors considered and adopted a resolution in opposition to the issuance of a Presidential Permit for the Keystone XL pipeline project. This pipeline would be used to transport "oil sands" produced in the northeastern portion of the Province of Alberta, Canada, as well as crude oil produced in Montana and North Dakota, to a terminal in Nebraska that would allow for transport in other pipelines to refineries in the Gulf Coast area. The adopted resolution indicated that denying a permit for the project would take a positive stand for addressing climate change concerns and avoid public health impacts associated with increased refining of oil sands.

Discussions that occurred in consideration of this resolution led staff to conclude that additional background information would be beneficial in future policy considerations related to the production and use of energy. At the Stationary Source Committee meeting on September 16, 2013, staff will provide an overview of energy issues, including energy production and use with trends and projections (with an air pollution focus on carbon dioxide (CO_2) emissions that contribute to climate change). Information will be summarized on a worldwide basis, for the United States, for California, and for the Bay Area.

DISCUSSION

At the heart of modern society is an economy driven by energy use. Current worldwide energy consumption is about 10 times higher than it was 100 years ago, due both to population expansion and significant growth in per capita energy use. The rise in energy consumption is primarily from increased use of fossil fuels. Coal supplanted wood as the world's largest energy source before the end of the 19th century, and the use of oil and natural gas increased dramatically after World War II. Currently, fossil fuels provide an estimated 83 percent of worldwide energy use.

The production, distribution, and use of fossil fuels accounts for the majority of many types of air pollutant emissions. Despite the significant increase in fossil fuel use that has occurred over time, air pollution control programs in the United States (and in many other developed countries) have made substantial improvements in air quality in terms of the pollutants that are regulated to protect public health (i.e., criteria pollutants and toxic air contaminants). Most of this progress can be attributed to the use of air pollution control methods that have become progressively more effective in reducing emissions due to technological improvements.

This is not the case for CO_2, the primary greenhouse gas responsible for climate change, which has much more recently become a subject of concern, and for which cost-effective "add-on" control technologies generally have not yet been developed. Strategies for reducing CO_2 emissions generally focus on "pollution prevention" measures that involve reducing the consumption of fossil fuels through energy conservation and efficiency measures, switching to fossil fuels with lower carbon intensities (e.g., natural gas rather than coal), or switching to alternative energy sources (e.g., renewables).

Over the last 30 years, growth in worldwide energy use (and CO_2 emissions) has been most significant in developing countries driven by strong economic growth and expanding populations. For example, energy use in China increased by more than 500% since 1980, while energy use in the United States increased by about 20% over this same time period. (China is now the world's largest energy consuming country, with 70% of that nation's energy use coming from coal use). The industrial sector is the largest consumer of energy on a worldwide basis (52% of total energy use), and the transportation sector is the second largest (26% of total energy use). Over the next 30 years, world energy consumption is projected to increase by over 50% from current levels (based on a "business-as usual" scenario that assumes existing laws, regulations and policies that affect energy use stay in effect). About 85% of this projected increase in worldwide energy use is expected to occur in developing countries.

In the United States, energy use is expected to increase by less than 10% over the next 30 years, and CO_2 emissions are expected to decrease (based on a "business-as usual" scenario), despite an expected population increase of over 25%. The U.S. has seen an improvement (decline) in per capita energy use since about the year 2000, and this trend is expected to continue throughout the projection period. The decline in energy use per capita is brought about largely by gains in vehicle and appliance efficiency standards. Currently, the industrial sector is the U.S's largest consumer of energy (31% of total energy use), but this is followed closely by the transportation sector (28% of total energy use).

Developments in non-conventional oil and gas production (and in particular the use of horizontal drilling and hydraulic fracturing technologies in shale formations) have begun to have a significant effect on energy production in the United States (and some other counties). From 2008 to 2012, crude oil production in the U.S. increased by 30%, and natural gas production increased by 20%. Further production increases are expected, particularly for natural gas for which production is expected to increase by over 50% from current levels over the next 30 years.

In California, per capita energy consumption is one-third lower than the U.S. average, due in part to climate and demographic factors, but also because of strong energy efficiency programs for

appliances and buildings. The transportation sector is California's largest consumer of energy (38% of total energy use), followed by the industrial, commercial and residential sectors (23%, 20%, and 19% of total energy use, respectively). Petroleum (used mostly in the transportation sector) is California's largest energy source (61% of total energy use), and although most crude oil used in the State is imported, about 38% is produced from in-state oil wells. California crude oil production has been gradually declining since about 1985, but there has been growing interest in development of the extensive shale oil resources in the Monterey Formation, and some exploration activities are underway.

The Global Warming Solutions Act of 2006 (AB 32) has a goal of reducing CO_2 (and other GHG) emissions in California back to 1990 levels by 2020. Meeting this goal will likely put California well ahead of the rest of the country in terms of reducing energy-related CO_2 emissions (energy-related CO_2 emissions in the U.S. are projected to be about 8% higher than 1990 levels by 2020, assuming existing laws, regulations and policies continue to be in effect).

In the Bay Area, five counties have oil or gas production wells. Natural gas production is most significant, with output (primarily from the Rio Vista gas field) representing about 3% of the State's total production in 2011. Renewable energy has been growing rapidly in the Bay Area, and renewable energy production now collectively exceeds energy produced from Bay Area oil and gas wells. This includes wind energy (most notably from the Altamont Pass Wind Farm and, more recently, the Shiloh Wind Power Plant in Solano County), solar energy, and biofuels energy (e.g., landfill gas-to-energy). (Significant geothermal energy is also produced in northern Sonoma County, but this is outside of BAAQMD jurisdiction).

Electrical generation from the use of fossil fuels in the Bay Area has been evolving over the last several decades. First, all of these power plants (other than one peaking plant in Oakland that is rarely used) now use natural gas exclusively. Second, with the exception of one remaining facility in Pittsburg, the older boiler-based power plants in the Bay Area have been shut-down. Five smaller petroleum-coke fueled power plants in Contra Costa County have also recently been shut down. The lost electrical generating capacity resulting from the shut-down of older plants has largely been replaced with the addition of new, more energy efficient, turbine-based power plants that can more quickly be dispatched based on changing power needs. In addition, the Bay Area has also seen the addition of many smaller "distributed energy" plants that provide on-site power without electrical transmission system energy losses.

Bay Area refineries produce transportation fuels, lubricating oil, petrochemical feed stocks, asphalt, and other petroleum-based products, and in doing so are also major energy users. Nearly all of the fuel used at these refineries is natural gas or refinery gas (a mixture or gases generated during the refining process). The energy-related CO_2 emissions from the five Bay Area refineries, along with energy-related CO_2 emissions from other Bay Area industries including fossil-fueled power plants, result in the industrial sector being a somewhat larger source of CO_2 emissions than the transportation sector in the Bay Area.

Refineries periodically make changes to their facilities for various purposes including modernizing operations, adapting to changing business conditions, and complying with changing regulatory requirements including more stringent fuel standards. The Air District evaluates the

air quality impacts of changes at refineries that involve new or modified equipment through pre-construction permit review, and is developing a new Petroleum Refining Emissions Tracking rule to provide further regulatory mechanisms for ensuring that any significant emissions increases are properly mitigated.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jean Roggenkamp

AGENDA: 6

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 16, 2013

Re: Report on the Compliance Assurance Program's Rule Effectiveness Studies

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Compliance and Enforcement Division is comprised of three programs: Enforcement, Compliance Assistance and Operations, and Compliance Assurance. The Enforcement Program consists of activities designed to respond when non-compliance is discovered. The Compliance Assistance and Operations Program provide industry, the public and staff with tools to promote awareness and compliance with air quality requirements. The Compliance Assurance Program consists of programs to ensure facilities operate and maintain compliance.

As part of the Compliance Assurance Program, staff conducts rule effectiveness studies to determine the effectiveness of new or existing rules and regulations, to ascertain the compliance rate of sources, to ensure emission reductions are achieved and to provide consistent understanding of District Rules and Regulations for industry.

DISCUSSION

In this report, staff will provide the Committee with an overview of the Compliance and Enforcement Division's Compliance Assurance Program highlighting two recent Rule Effectiveness Studies.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Wayne Kino
Reviewed by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/Air Pollution Control Officer

Date: September 26, 2013

Re: Report of the Mobile Source Committee Meeting of September 26, 2013

RECOMMENDED ACTION

The Mobile Source Committee (Committee) recommends Board of Directors' approval of the following items:

A) Projects with Proposed Grant Awards Over $100,000:

1. Approve Carl Moyer Program (CMP) projects with proposed grant awards over $100,000; and

2. Authorize the Executive Officer/Air Pollution Control Officer (APCO) to enter into agreements for the recommended CMP projects.

B) None. Informational item, receive and file.

C) None. Informational item, receive and file.

D) None. The matter was deferred until the next meeting of the Committee.

BACKGROUND

The Committee met on Thursday, September 26, 2013. The Committee received the following reports and recommendations:

A) Projects with Proposed Grant Awards Over $100,000;

B) Update on California Goods Movement Bond (I-Bond) and Shorepower Programs; and

C) Update on California Air Resources Board Truck Regulations.

D) Transportation Fund for Clean Air (TFCA) Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending (FYE) 2014.

Attached are the staff reports presented in the Committee packet. Consideration of the item relating to TFCA Regional Fund Policies and Evaluation Criteria for FYE 2014 was deferred until the next meeting of the Committee.

Chairperson Scott Haggerty will provide an oral report of the Committee meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

A) None. Through the CMP, Mobile Source Incentive Fund (MSIF) and TFCA, the Air District distributes "pass-through" funds to public agencies and private entities on a reimbursement basis. Administrative costs for both programs are provided by each funding source.

B) None. Through the I-Bond program the Air District distributes "pass-through" funds to public agencies and private entities on a reimbursement basis. Administrative costs for the program are provided by the funding source.

C) None. The Air District receives funding for the administration of these programs as part of the I-Bond and MSIF programs.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Rex Sanders

Attachments

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and
Members of the Mobile Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 16, 2013

Re: Approval of Carl Moyer Projects with Dollar Amounts in Excess of $100,000

RECOMMENDATIONS

Recommend Board of Directors:

1. Approve Carl Moyer Program projects with proposed grant awards over $100,000.

2. Authorize the Executive Officer/APCO to enter into agreements for the recommended Carl Moyer Program projects.

BACKGROUND

The Bay Area Air Quality Management District (Air District) has participated in the Carl Moyer Program (CMP), in cooperation with the California Air Resources Board (ARB), since the program began in fiscal year 1998-1999. The CMP provides grants to public and private entities to reduce emissions of oxides of nitrogen (NOx), reactive organic gases (ROG) and particulate matter (PM) from existing heavy-duty engines by either replacing or retrofitting them. Eligible heavy-duty diesel engine applications include on-road trucks and buses, off-road equipment, marine vessels, locomotives, stationary agricultural pump engines and forklifts.

Assembly Bill 923 (AB 923 - Firebaugh), enacted in 2004 (codified as Health and Safety Code Section 44225), authorized local air districts to increase their motor vehicle registration surcharge up to an additional $2 per vehicle. The revenues from the additional $2 surcharge are deposited in the Air District's Mobile Source Incentive Fund (MSIF). AB 923 stipulates that air districts may use the revenues generated by the additional $2 surcharge for projects eligible for grants under the CMP.

Since 1991, the Transportation Fund for Clean Air (TFCA) program has funded projects that achieve surplus emission reductions from on-road motor vehicles. Funding for this program is provided by a $4 surcharge on motor vehicles registered within the San Francisco Bay Area as authorized by the California State Legislature. The statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242. Sixty percent (60%) of TFCA funds are awarded directly by the Air District through a grant program known as the Regional Fund that is allocated on a competitive basis to eligible projects proposed by project sponsors.

On February 4, 2013, the Board of Directors authorized Air District participation in Year 15 of the CMP, and authorized the Executive Officer/APCO to execute Grant Agreements and amendments for projects funded with CMP funds or MSIF revenues, with individual grant award amounts up to $100,000. On November 18, 2009, the Air District Board of Directors authorized the Executive Officer/APCO to execute Grant Agreements and amendments for projects funded with TFCA funds, with individual grant award amounts up to $100,000.

CMP and TFCA Regional Fund projects with grant award amounts over $100,000 are brought to the Committee for consideration at least on a quarterly basis. Staff reviews and evaluates the grant applications based upon the respective governing policies and guidelines established by the ARB and/or the Air District's Board of Directors.

DISCUSSION

Carl Moyer Program:

The Air District started accepting applications for CMP Year 15 projects on July 23, 2013. The Air District has approximately $15 million available for CMP projects from a combination of MSIF and CMP funds. Project applications are being accepted and evaluated on a first-come, first-served basis.

As of September 10, 2013, the Air District had received 29 project applications. Of the applications that have been evaluated between June 5, 2013 and September 10, 2013, four (4) eligible projects have proposed individual grant awards over $100,000. These projects will replace the following diesel-powered, off-road equipment with newer, low-polluting equipment: three (3) forklifts, four (4) loaders, and three (3) tractors. These projects will reduce over 15.8 tons of NOx, ROG and PM per year. Staff recommends allocating $2,759,524 to these projects from a combination of CMP funds and MSIF revenues. Attachment 1 to this staff report provides additional information on these projects.

Attachment 2 lists all of the eligible projects that have been received by the Air District as of September 10, 2013, and summarizes the allocation of funding by equipment category (Figure 1), and county (Figure 2). This list also includes the Voucher Incentive Program (VIP) on-road replacement projects awarded since the last committee update. Approximately 13% of the funds have been awarded to projects that reduce emissions in highly impacted Bay Area communities.

TFCA:

No TFCA applications requesting individual grant awards over $100,000 received as of September 10, 2013 are being forwarded for approval at this time.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. Through the CMP, MSIF and TFCA, the Air District distributes "pass-through" funds to public agencies and private entities on a reimbursement basis. Administrative costs for both programs are provided by each funding source.

Respectfully submitted,

Jack P. Broadbent
Executive Director/APCO

Prepared by: Anthony Fournier
Reviewed by: Damian Breen

Attachment 1: BAAQMD Carl Moyer Program/Mobile Source Incentive Fund projects with grant awards greater than $100,000 (evaluated between 6/5/13 and 9/10/13)

Attachment 2: Summary of all CMP Year 14/MSIF and VIP approved and eligible projects (as of 9/10/13)

AGENDA 4 - ATTACHMENT 1

BAAQMD Carl Moyer Program/ Mobile Source Incentive Fund projects
with grant awards greater than $100k (Evaluated between 6/5/13 and 9/10/13)

Project #	Applicant name	Equipment category	Project type	Proposed contract award	Emission Reductions (Tons per year)			County
					NOx	ROG	PM	
14MOY44	Economy Lumber Company of Oakland, Inc.	Off-road	Replacement of three (3) diesel powered forklifts.	$ 106,010.00	0.481	0.086	0.036	Alameda
14MOY50	Fred Corda Farming & Ranching	Off-road	Replacement of one (1) diesel powered tractor.	$ 180,570.00	0.742	0.048	0.017	Marin
15MOY5	McClelland's Dairy	Off-road	Replacement of one (1) diesel powered tractor.	$ 182,804.00	0.665	0.074	0.030	Sonoma
15MOY20	Steven's Creek Quarry, Inc.	Off-road	Replacement of one (1) diesel powered tractor, and four (4) diesel-powered loaders.	$ 2,290,140.00	11.747	1.388	0.526	Santa Clara
				$ 2,759,524.00	**13.635**	**1.596**	**0.608**	

AGENDA 4 - ATTACHMENT 2

Summary of all CMP, MSIF and VIP approved/ eligible projects (As of 9/10/13)

Project #	Equipment category	Project type	# of engines	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
						NOx	ROG	PM		
14MOY43	Agriculture	Irrigation pump engine replacement	1	$ 45,548.00	Huneeus Vintners, LLC	0.135	0.023	0.008	APCO	Napa
14MOY46	Off-road	Loader replacement	1	$ 43,160.00	Gregory Lyons (Lyons Farms)	0.187	0.034	0.015	APCO	Solano
14MOY50	Off-road	Tractor replacement	1	$ 180,570.00	Fred Corda Farming & Ranching	0.742	0.048	0.017	TBD	Marin
14MOY44	Off-road	Forklift replacement	3	$ 106,010.00	Economy Lumber Company of Oakland, Inc.	0.481	0.086	0.036	TBD	Alameda
15MOY4	Off-road	Backhoe replacement	2	$ 71,020.00	Doyle's Work Company, Inc. (Excavation & Trenching)	0.225	0.055	0.028	APCO	Santa Clara
15MOY5	Off-road	Tractor replacement	1	$ 182,804.00	McClelland's Dairy	0.665	0.074	0.030	TBD	Sonoma
15MOY20	Off-road	Tractor and Loader reaplcement	5	$ 2,290,140.00	Steven's Creek Quarry, Inc.	11.747	1.388	0.526	TBD	Santa Clara
VIP139	VIP	Truck Replacement	1	$ 30,000.00	Donald Lee Holmes	0.608	0.009	0.000	APCO	San Benito
VIP140	VIP	Truck Replacement	1	$ 30,000.00	Nikolas Carasis	0.606	0.020	0.000	APCO	Contra Costa
VIP142	VIP	Truck Replacement	1	$ 45,000.00	Forward Intermodal Systems, Inc.	0.905	0.013	0.000	APCO	San Francisco
VIP143	VIP	Truck Replacement	1	$ 30,000.00	Galante Brothers	0.606	0.020	0.000	APCO	Santa Clara
VIP144	VIP	Truck Replacement	1	$ 45,000.00	Zeiher Trucking Service, Inc.	0.905	0.013	0.000	APCO	San Joaquin
VIP145	VIP	Truck Replacement	1	$ 45,000.00	San Miguel Transportation, Inc.	0.905	0.013	0.000	APCO	Sonoma
VIP146	VIP	Truck Replacement	1	$ 40,000.00	Jaspal Singh	0.802	0.027	0.000	APCO	Alameda
VIP147	VIP	Truck Replacement	1	$ 45,000.00	Jose E. Mejia	0.905	0.013	0.000	APCO	Santa Clara
VIP148	VIP	Truck Replacement	1	$ 35,000.00	Raphelle Gabriel	0.702	0.010	0.000	APCO	San Mateo
VIP149	VIP	Truck Replacement	1	$ 45,000.00	Tuan Q. Luu	0.905	0.013	0.000	APCO	Santa Clara
VIP150	VIP	Truck Replacement	1	$ 25,000.00	Gurdeep Singh DBA Arjan Transport	0.513	0.008	0.000	APCO	Solano
VIP151	VIP	Truck Replacement	1	$ 45,000.00	Eugene R. Oliverio	0.905	0.013	0.000	APCO	Santa Clara
VIP152	VIP	Truck Replacement	1	$ 35,000.00	Devinder Singh Nagra	0.702	0.010	0.000	APCO	Santa Clara
VIP153	VIP	Truck Replacement	1	$ 40,000.00	Dong V. Le	0.811	0.012	0.000	APCO	Alameda
VIP154	VIP	Truck Replacement	1	$ 35,000.00	Harjinder Singh Shergill	0.700	0.013	0.000	APCO	Sacramento
VIP155	VIP	Truck Replacement	1	$ 45,000.00	Brian Scott Price	0.905	0.013	0.000	APCO	Salinas
VIP156	VIP	Truck Replacement	1	$ 45,000.00	Dennis C. Leavitt Jr.	0.905	0.013	0.000	APCO	Alameda
VIP157	VIP	Truck Replacement	1	$ 30,000.00	Calstone Co.	0.603	0.013	0.000	APCO	Santa Clara
VIP158	VIP	Truck Replacement	1	$ 35,000.00	Manuel Gambao DBA MG Trucking	0.706	0.011	0.000	APCO	Riverside
VIP159	VIP	Truck Replacement	1	$ 35,000.00	Lestor Jackson	0.706	0.011	0.000	APCO	Alameda
VIP160	VIP	Truck Replacement	1	$ 45,000.00	Sanh Nguyen	0.905	0.013	0.000	APCO	Alameda
VIP161	VIP	Truck Replacement	1	$ 35,000.00	Ruben Tinoco Rivera	0.706	0.011	0.000	APCO	Salinas
VIP162	VIP	Truck Replacement	1	$ 25,000.00	Emilio Venegas	0.513	0.008	0.000	APCO	San Joaquin
VIP163	VIP	Truck Replacement	1	$ 20,000.00	EXLS / Ultra Labs, Inc.	0.405	0.006	0.000	APCO	Alameda

Project #	Equipment category	Project type	# of engines	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
						NOx	ROG	PM		
VIP164	VIP	Truck Replacement	1	$ 45,000.00	Ernesto Q. Tejada	0.905	0.013	0.000	APCO	Santa Clara
VIP165	VIP	Truck Replacement	1	$ 20,000.00	Harkewal Singh Bhuller	0.402	0.006	0.000	APCO	Alameda
VIP166	VIP	Truck Replacement	1	$ 45,000.00	M/M Feed	0.814	0.018	0.000	APCO	Mendocino
VIP167	VIP	Truck Replacement	1	$ 35,000.00	Joseph Michael Velardi	0.702	0.010	0.000	APCO	Contra Costa
VIP168	VIP	Truck Replacement	1	$ 40,000.00	Matthew P. Crowley	0.814	0.018	0.000	APCO	Monterey
VIP169	VIP	Truck Replacement	1	$ 45,000.00	Matthew J. Domler	0.905	0.013	0.000	APCO	Solano
VIP170	VIP	Truck Replacement	1	$ 15,000.00	Michael J. Haye	0.309	0.007	0.000	APCO	San Mateo
VIP171	VIP	Truck Replacement	1	$ 35,000.00	Hydra Reload Inc. / Kellogg Distribution	0.702	0.010	0.000	APCO	Sacramento
VIP172	VIP	Truck Replacement	1	$ 35,000.00	Kellogg Distribution Inc.	0.702	0.010	0.000	APCO	Sacramento
VIP173	VIP	Truck Replacement	1	$ 45,000.00	Elliott Louis Nurse	0.905	0.013	0.000	APCO	Monterey
	41	**Projects**	**48**	**$ 4,164,252.00**		**39.176**	**2.131**	**0.659**		

Figure 1: CMP/ MSIF Funding Distribution by Equipment Category as of 9/10/13

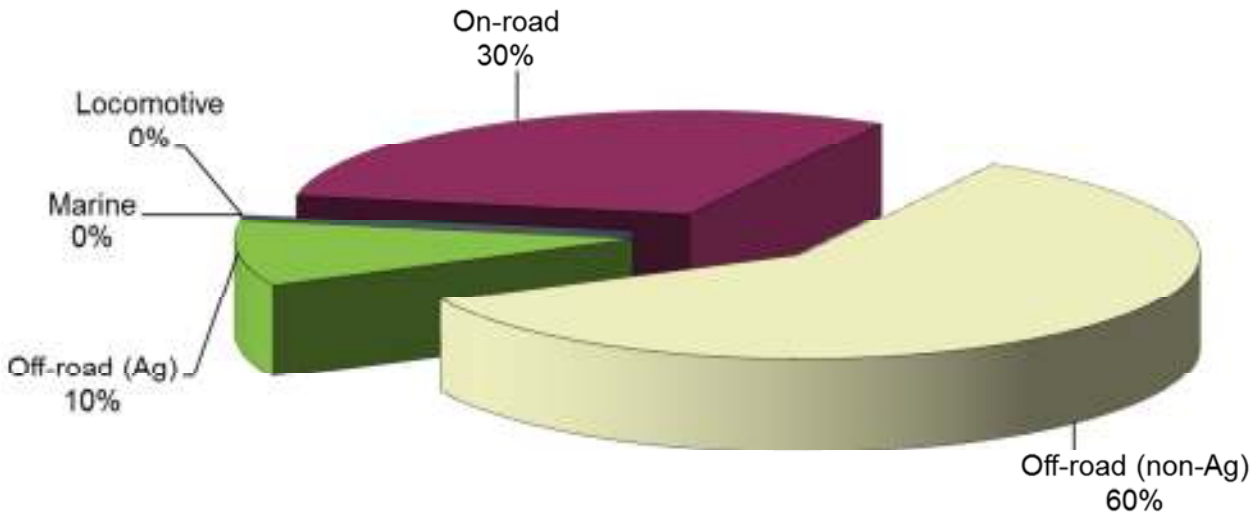
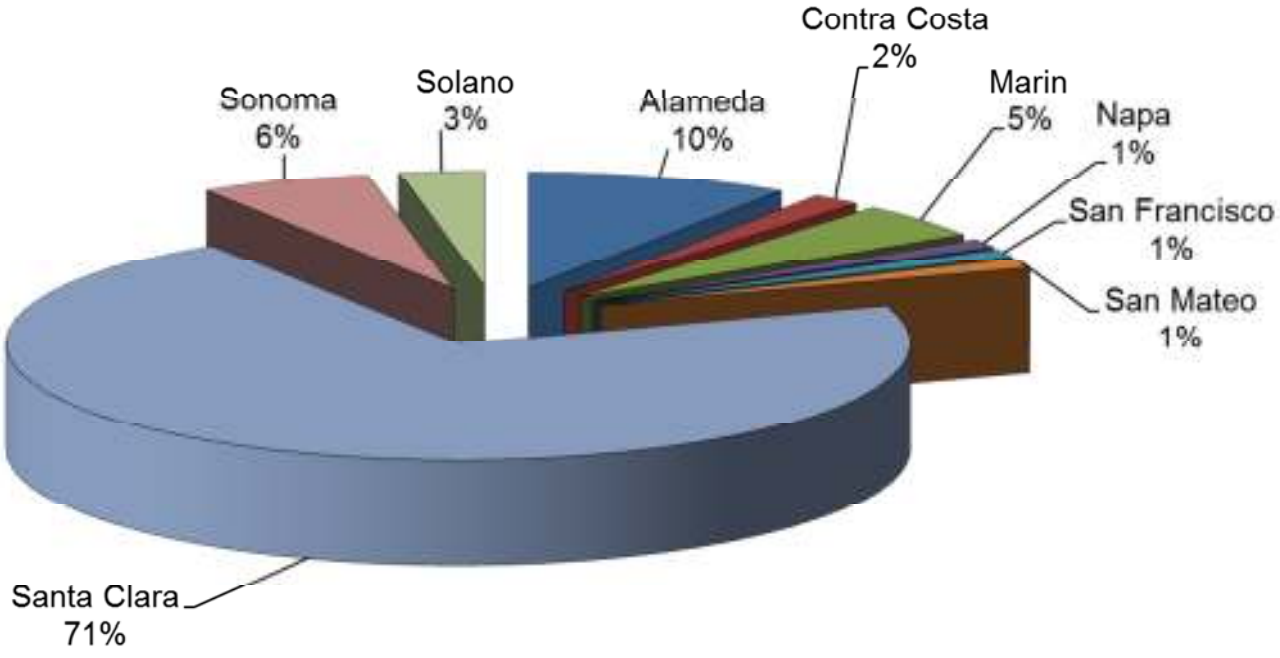


Figure 2: CMP/ MSIF Funding Distribution by County as of 9/10/13



BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members of the Mobile Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2013

Re: Update on California Goods Movement Bond and Shorepower Programs

RECOMMENDED ACTION

None. Informational item, receive and file.

BACKGROUND

In November 2006, California voters authorized the Legislature to appropriate $1 billion in bond funding to quickly reduce air pollution emissions and health risk from freight movement along California's priority trade corridors. On February 28, 2008, the California Air Resources Board (ARB) approved an allocation of $140 million from projected bond sales for emission reduction projects in the Bay Area trade corridor (approximately $35 million per year over four years).

The Air District has administered the Goods Movement Bond Program (I-Bond) in the Bay Area for the first three funding cycles. To date the Air District has spent over $72 million in I-Bond funding on the following projects:

- $4.37 million to retrofit 889 port trucks
- $19.28 million to replace 562 port trucks
- $0.28 to retrofit 41 on-road trucks
- $27.00 million to replace 546 on-road trucks
- $21.79 million to electrify 12 berths at the Port of Oakland (shore power) – *in progress*

The numbers above represent I-Bond funded projects and do not include Air District, Port or Federal funding used to co-fund some of these programs. As part of this report, staff will update the Committee on the Air District's shore-power projects, and the Year 4 on-road truck replacement program.

DISCUSSION

Shore Power Projects

As part of its efforts to reduce emissions at California ports, the ARB enacted an Air Toxics Control Measure (ATCM) for *"Auxiliary Diesel Engines Operated on Oceangoing Vessels at Berth in a California Port"* in December, 2007. This regulation requires vessel owners, terminals and California ports work together to reduce the emissions caused when ships run/idle their engines to provide power for onboard activities while docked at port. One way to comply with the regulatory requirements is for fleet owners to connect their vessels to an electric shore-power system that allows the ships to receive power without the use of the diesel engines. Table 1 summarizes the requirements for fleets choosing this option.

Table 1 - Regulatory Requirements for Fleets Using Grid-Based Shore-power

Compliance date	Regulatory Requirement
January 1, 2014	Plug-in 50% of a fleet's vessel visits
January 1, 2017	Plug-in 70% of a fleet's vessel visits
January 1, 2020	Plug-in 80% of a fleet's vessel visits

In the Bay Area fleets with ocean-going vessels (container vessels, refrigerated-cargo vessels, and passenger vessels) visiting the Port of Oakland (Oakland) or the Port of San Francisco (San Francisco) will be subject to the ARB regulation. Both ports have been working to provide the infrastructure needed for ships to connect to the grid-based system while at berth.

San Francisco: In order to address the requirement to reduce 50% of the emissions from the vessels calling at San Francisco by 2014, that port applied for Carl Moyer funding in 2006 to install grid-based shore-power at its Pier 27 complex. The total cost of this installation was approximately $5.2 million and was completed with Air District grant funding ($1.9 million from the Mobile Sources Incentive Fund (MSIF)), $1.3 million from the San Francisco Public Utilities Commission, $1 million each from the Port of San Francisco and the United States Environmental Protection Agency. Currently, due to the America's Cup and the rebuild of the cruise ship terminal in San Francisco, the shore-power system is not capable of connecting ships to shore-power. With the compliance deadline approaching, Air District staff is working with San Francisco on how they will comply with the ARB's rule.

Oakland: While subject to the same requirements as San Francisco, the shore-power picture in Oakland is more complicated due to the larger number of berths needing electrification. The Air District has assisted in meeting this need by providing approximately $30 million for the electrification of 15 berths via the following projects:

American Presidents Line (APL): In July 2008, APL shipping company through its terminal operator Eagle Marine Services received a $2.8 million I-Bond grant from the Air District to electrify three berths at its terminal in Oakland. The Air District also provided approximately $2 million to upgrade three vessels slated to utilize this shore-power installation via a Carl Moyer Program grant in mid-2009. Both projects have been completed and are being used to shore power vessels. Recently, due to the change in

terminal operator, the responsibilities for the I-Bond funded shore power system were transferred from APL to SSA Terminals, LLC.

SSA Terminals, LLC and Total Terminals International: On February 2, 2011, the Air District approved a $5 million Mobile Source Incentive Fund (MSIF) grant for the electrification of three berths at the Port. This grant matched approximately $12.8 million in Federal and Port funds to install infrastructure at three berths at the SSA Terminals, LLC and Total Terminals International, LLC facilities. The shore-power installation at these berths was completed in late 2012 and is currently awaiting a ship connection demonstration finalize the project.

Goods Movement Bond Projects: On December 16, 2010, the Air District executed an agreement with ARB to accept $20 million in I-Bond funding for shore power projects at Bay Area ports. On May 4, 2011, the Air District's Board of Directors approved the allocation of $19,417,476 in project funding ($16.9 million to the Port of Oakland, and $2.5 million to Ports America) to electrify nine (9) berths at the Port of Oakland. The equipment funded for these berths must be operational prior to December 31, 2013 and must demonstrate a successful ship connection by early 2014. At the time this report was drafted staff had witnessed the operational testing of seven (7) of the funded berths. The operational tests for the two (2) remaining berths and the ship connection demonstrations are expected to be completed on schedule. Once these projects have been completed, shore power will be available at 15 of the 18 berths at the Port of Oakland. This provides enough electricity supply for those vessels subject to the regulation.

Year 4 On-road Truck Projects

On March 12, 2013 the Air District submitted an application to ARB for participation in the Year 4 I-Bond cycle, requesting $38 million in truck funding and $17 million in locomotive funding. On April 17, 2013 the Air District's Board of Directors approved participation in the Year 4 I-Bond program, and authorized the Executive Officer to enter into agreements with the ARB and truck owners to implement the program.

On July 25, 2013 the ARB Board approved an allocation of $9.9 million to the Air District for Year 4 I-Bond projects. This funding along with funds remaining from previous I-Bond awards will be used to replace on-road trucks operating in California trade corridors. The program will provide up to $50,000 in grant funding to replace approximately 500 existing diesel trucks weighing greater than 19,501 lbs. with newer trucks certified to the 2010 emissions standards.

The Air District is accepting applications in two phases for the Year 4 on-road truck replacement program. As a part of Phase 1, applications will be accepted between August 26th and October 10th. Applications will be reviewed, ranked, and funded in rank order until all funds have been awarded. Phase 2 will accept applications for a backup project list that will be funded in the event funds remain after the Phase 1 projects have been funded. The backup project list will help staff quickly allocate funding in the event that projects on the first list are not completed, or in the event that additional funds are awarded by ARB. Phase 2 applications will be accepted between October 11th and November 8th. Contracting is expected to begin towards the end of 2013, and trucks will be on the road by the end of 2014. Staff will continue to update the Committee on the progress of these programs.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. Through the I-Bond program the Air District distributes "pass-through" funds to public agencies and private entities on a reimbursement basis. Administrative costs for the program are provided by the funding source.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Anthony Fournier
Reviewed by: Damian Breen

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members of the Mobile Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2013

Re: Update on California Air Resources Board Truck Regulations

RECOMMENDATION

None. Informational item, receive and file.

BACKGROUND

Port Drayage Truck Regulation:
In December of 2007, the California Air Resources Board (ARB) approved a regulation to reduce emissions from drayage trucks operating at California's ports and intermodal rail yards. The first phase of the regulation went into effect on 12/31/09, and Phase 2 of the regulation goes into effect on 12/31/13. A summary of the regulation's compliance schedule is shown in Table 1. The upcoming 12/31/13 requirement mandates all drayage trucks have 2007 model year engines. This is the last compliance requirement under the regulation. However, drayage trucks with 2007-2009 engines become subject to the requirements of the On-road Truck and Bus regulation and must be upgraded to a 2010+ model year engine by 1/1/23. Drayage trucks with 2010+ engines are fully compliant.

Table 1: ARB Drayage Truck Regulation Compliance Schedule

Phase	Date	Engine Model Years (MY)	Regulation requirement
Phase 1	12/31/09	1993 and older	Prohibited from operation as a drayage truck
		1994 – 2003	Install a Level 3 retrofit device
	12/31/11	2004	Install a Level 3 retrofit device
	12/31/12	2005 and 2006	Install a Level 3 retrofit device
Phase 2	**12/31/13**	**1994 – 2006**	**Meet 2007 engine emissions standards**
Truck & Bus Regulation	1/1/23	2007-2009	Meet 2010 engine emissions standards
	none	2010	Fully compliant

On-road Truck and Bus Regulation:
In December of 2008, ARB approved the Truck and Bus regulation to significantly reduce PM, and oxides of nitrogen (NOx) emissions from diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses weighing

more than 14,000 pounds that are privately owned and includes privately and publicly owned school buses. The regulation has different compliance schedules for trucks depending on their Gross Vehicle Weight Rating. Lighter trucks and buses weighing 14,001 to 26,000 pounds do not have compliance requirements until 1/1/15. Heavier (26,001 + pounds) trucks and buses have been subject to compliance requirements since 1/1/12.

As part of this report, staff will discuss the Air District's efforts to assist Bay Area fleets in reducing emissions from trucks by coming into early compliance with these regulations.

DISCUSSION

Port Drayage Truck Efforts:
While all Bay Area ports are subject to this regulation, its major impact is at the Port of Oakland; the region's largest intermodal facility. Since 2009, the Air District has implemented several incentive programs to reduce emissions from port drayage trucks in the Bay Area. Over the past four years these programs have provided $38 million to port truck owners in Northern California to install 1,300 retrofit devices and replace 625 trucks, reducing over ninety five tons of Particulate Matter (PM) emissions in West Oakland. An independent UC Berkley study has confirmed that these programs in combination with the ARB regulation have cut port truck pollution in West Oakland by approximately half.

As of August 2013, the ARB Drayage Truck Registry database showed a total of 5,950 drayage trucks in service in northern California. Of the total registered port trucks, over 4,200 currently meet the 12/31/13 compliance requirement. Additionally, ARB staff indicates that they have seen an average of 135 trucks upgraded each month during 2013, a trend that is expected to continue up to the regulatory deadline.

Currently, no grant funding is available for port truck projects, but truck owners can still participate in an ARB loan program to help secure financing for truck replacements. Staff has worked with the Port of Oakland and ARB to inform truckers of the upcoming Phase 2 requirement during the summer and will continue outreach efforts on the upcoming deadline and the ARB loan program until the end of the year.

On-road Truck and Bus Efforts:
Staff estimates that there are more than 34,000 trucks in the Bay Area weighing over 26,001 lbs. The regulation identifies two options (Phase-in option or the Model Year option) for compliance for these vehicles in fleets with 4 or more trucks. Under the phase-in option retrofits will be required on 90% of a fleet's trucks by 1/1/14. Under the model year schedule, trucks with 1996 to 2006 model year engines will have to have a retrofit device by 1/1/14.

For small fleets (1 to 3 trucks), retrofits are required on one truck by 1/1/14, the second truck (if applicable) by 1/1/15, and the third truck (if applicable) by 1/1/16. All trucks will be required to have engines meeting the 2010 emissions standard by 1/1/23. It is estimated that approximately 6,000 trucks owned by small fleet operators will need to come into compliance on 1/1/14.

School buses subject to the regulation must meet retrofit device requirements from 2012 to 2014. School bus fleets would need to demonstrate that 33 percent of their buses have retrofit devices by 2012, 66 percent by 2013 and 100 percent by 2014. If an engine cannot be equipped with a retrofit device it will need to be replaced by 1/1/18.

Historical Efforts: Since 2009, the Air District has implemented several incentive programs to reduce emissions from Bay Area trucks and buses. Over the past four years these programs have provided approximately $31.7 million to on-road truck owners in Northern California reducing over ninety tons of PM emissions. Since 2000, the Air District has also awarded over $48 million to retrofit, replace, or upgrade CNG tanks for Bay Area school buses.

Current Efforts: Currently, the Air District has over $5 million in grant funds available for truck replacement projects through the Voucher Incentive Program (VIP). Funding is available for trucks in fleets of 10 or fewer trucks, and is awarded on a first-come, first-served basis until funds have been allocated. Under the current funding structure all new trucks funded must be on the road by the end of 2013. If program demand exceeds available funding staff will update the Committee and request the allocation of additional Mobile Source Incentive Funds (MSIF) to continue the program.

Grant funding for truck replacement projects is also available from the Proposition 1B, I-Bond program. The ARB Board approved an allocation of $9.9 million to the Air District for Year 4 I-Bond projects which will be combined with funds remaining from previous I-Bond awards. The Air District began accepting applications on August 26, 2013. Applications will be reviewed, ranked, and funded in rank order until all funds have been awarded. Contracting is expected to begin towards the end of 2013, and trucks will be on the road by the end of 2014.

In order to inform affected truckers of these programs, staff is engaged in extensive outreach via the Air District website, trucking associations, in person meetings, presentations at dealerships and via informational postcard mail outs. This ongoing effort is being coordinated with the ARB and Staff will continue to update the Committee on the progress of these efforts and current incentive programs leading up to the regulatory deadline.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. The Air District receives funding for the administration of these programs as part of the I-Bond and MSIF programs.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Anthony Fournier
Reviewed by: Damian Breen

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members of the Mobile Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 17, 2013

Re: Transportation Fund for Clean Air (TFCA) Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending (FYE) 2014

RECOMMENDED ACTION:

Recommend Board of Directors approve the proposed fiscal year ending (FYE) 2014 TFCA Regional Fund Policies and Evaluation Criteria (FYE 2014 Policies) presented in Attachment A.

BACKGROUND

In 1991, the California State Legislature authorized the Bay Area Air Quality Management District (Air District) to impose a $4 surcharge on motor vehicles registered within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions. The Air District has allocated these funds to its Transportation Fund for Clean Air (TFCA) to fund eligible projects. The statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242.

Sixty percent (60%) of TFCA funds are awarded directly by the Air District. Portions of this funding are allocated to Air District Board of Directors (Board) approved eligible programs or projects implemented directly by the Air District, such as the Smoking Vehicle and Spare the Air Programs and the Enhanced Enforcement Projects. The remainder of the funding is allocated to the TFCA Regional Fund Program, which is governed by Board-adopted policies and evaluation criteria. In this report, staff will propose policies for the TFCA Regional Fund Program for FYE 2014 for shuttle/feeder bus service, regional ridesharing, and electronic bicycle locker projects for the Committee's consideration.

Per Board direction on December 16, 2009, the Executive Officer/APCO will continue to execute Grant Agreements with individual grant award amounts up to $100,000 for projects that meet the respective governing policies and guidelines. TFCA Regional Fund projects with grant award amounts over $100,000 will continue to be brought to the Committee for consideration at least on a quarterly basis.

DISCUSSION

Proposed Policies

The proposed FYE 2014 TFCA Regional Fund Policies include project-specific policies that would apply to shuttle/feeder bus service, regional ridesharing, and electronic bicycle locker projects, as well as general policies that are applicable to all TFCA Regional Fund project types. Attachment A contains the proposed Policies for FYE 2014 and Attachment B shows the changes between the Board-adopted FYE 2013 Policies and the proposed FYE 2014 Policies.

The proposed revisions to the TFCA Regional Fund Policies and Evaluation Criteria for FYE 2014 are as follows:

- TFCA Regional Funds may only be used to cover shuttle/feeder bus service operations during established commute times;
- The cost-effectiveness threshold for pilot shuttle/feeder bus service projects located in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program has been increased to $500,000/ton;
- Matching funds for shuttle/feeder bus service projects must include only direct operational costs of the service; and
- The requirement that shuttle/feeder bus service projects must not duplicate existing transit service has been clarified. Project applicants that were awarded FYE 2013 TFCA Regional Funds that propose an identical route(s) in FYE 2014 would have the option to request an exemption to this requirement. These applicants would have to demonstrate how they will come into compliance with this requirement within the next three years.

Outreach

On July 25, 2013, the Air District opened the public comment period for the proposed FYE 2014 Policies. The process was advertised via the Air District's TFCA grants email notification system and the proposed policies were posted on the Air District's website. The Air District received five sets of comments by the close of the comment period on August 14, 2013. Attachment C provides a listing of the public comments received on the proposed policies and staff's responses to these comments.

Future Potential TFCA Regional Fund Program Modifications

The Air District has also been working over the past several years to streamline TFCA Regional Fund Program funding to ensure that it most efficiently meets the growing demand for grant funding across the nine-county Bay Area. At the May 23, 2013 Committee meeting, staff shared a number of potential concepts to modify how TFCA dollars are allocated to shuttle/feeder bus service and regional ridesharing projects.

Since that meeting, staff has continued to investigate potential modifications to the TFCA Regional Fund Program, via discussions with shuttle stakeholders such as the Metropolitan Transportation Commission (MTC) and Congestion Management Agencies. An overview of the policy options that were previously shared with the Committee, as well as two additional options that staff has more recently developed, are included in Attachment D. Staff intends to workshop these concepts with shuttle and rideshare stakeholders and will return with recommendations for potential modifications for the Committee's consideration prior to the next round of TFCA funding.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. The Air District distributes "pass-through" funds to grantees on a reimbursement basis. Administrative costs for the TFCA Regional Fund program are provided by the funding source.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Avra Goldman
Reviewed by: Karen Schkolnick

Attachment A: Proposed TFCA Regional Fund Policies and Evaluation Criteria for FYE 2014
Attachment B: Redlined Version Showing Changes Between Board-adopted FYE 2013 and Proposed FYE 2014 TFCA Regional Fund Policies and Evaluation Criteria
Attachment C: Comments Received and Staff Responses to Proposed FYE 2014 Policies
Attachment D: Concepts to Modify the TFCA Regional Fund Shuttle Program

TFCA REGIONAL FUND POLICIES AND EVALUATION CRITERIA FOR FYE 2014

The following policies apply to the Transportation Fund for Clean Air (TFCA) Regional Fund.

BASIC ELIGIBILITY

1. **Eligible Projects:** Only projects that result in the reduction of motor vehicle emissions within the Air District's jurisdiction are eligible.

   Projects must conform to the provisions of the California Health and Safety Code (HSC) sections 44220 et seq. and Air District Board of Directors adopted TFCA Regional Fund Policies and Evaluation Criteria for FYE 2014.

   Projects must achieve surplus emission reductions, i.e., reductions that are beyond what is required through regulations, contracts, and other legally binding obligations both a) at the time the Air District Board of Directors approves a funding allocation and b) at the time the Air District executes the project's funding agreement.

   Under certain circumstances following approval of the project by the Board of Directors, the Air District may approve modifications of the approved project or of the terms of the grant agreement. The Air District will evaluate whether the proposed modification will reduce the amount of emissions the originally-approved project was designed to achieve, will negatively affect the cost-effectiveness of the project or will otherwise render the project ineligible ("major modification"). The Air District may approve the proposed major modification if the Air District determines that the project, as modified, will continue to achieve surplus emission reductions, based on the regulations, contracts, and other legally-binding obligations in effect at the time of the proposed modification. The Air District may approve minor modifications, such as to correct mistakes in the grant agreement or to change the grantee, without a re-evaluation of the proposed modification in light of the regulations, contracts, and other legally-binding obligations in effect at the time of the proposed minor modification.

2. **TFCA Cost-Effectiveness:** Unless otherwise noted below**,** projects must not exceed a cost-effectiveness (C-E) of $90,000 per ton. Cost-effectiveness is based on the ratio of TFCA-generated funds awarded divided by the sum total tons of reactive organic gases (ROG), oxides of nitrogen (NO_x), and weighted particulate matter 10 microns in diameter and smaller (PM_{10}) reduced ($/ton).

   Certain project categories further specify the eligible funding amount per item (for example, $/vehicle) which is based on the cost-effectiveness levels below.

Project Category	Policy #	C-E Level Maximum ($/weighted ton)
Reserved	21	Reserved
Reserved	22	Reserved
Reserved	23	Reserved
Reserved	24	Reserved
Reserved	25	Reserved
Reserved	26	Reserved
Shuttle/Feeder Bus Service—Existing	27	$90,000
Shuttle/Feeder Bus Service—Pilot (outside CARE areas)	28	$125,000
Shuttle/Feeder Bus Service—Pilot (in CARE areas)	28	$500,000
Regional Ridesharing	29	$90,000
Electronic Bicycle Lockers	30	$90,000
Reserved	31	Reserved

3. **Consistent with Existing Plans and Programs:** All project categories must comply with the transportation control measures and mobile source measures included in the Air District's most recently approved strategy(ies) for achieving and maintaining State and national ozone standards, those plans and programs established pursuant to California Health & Safety Code (HSC) sections 40233, 40717 and 40919, and, when specified, with other adopted State, regional, and local plans and programs.

4. **Eligible Recipients and Authority to Apply:** Grant recipients must be responsible for the implementation of the project, have the authority and capability to complete the project, and be an applicant in good standing with the Air District (Policies #11 and #12).
   a. **Eligible Recipients**:
      i. **Public agencies** are eligible to apply for all project categories.
      ii. **Non-public entities** are only eligible to apply for new alternative-fuel (light, medium, and heavy-duty) vehicle projects, and advanced technology demonstrations that are permitted pursuant to HSC section 44241(b(7).
   b. **Authority to Apply**: Applications must include either: 1) a signed letter of commitment from the applicant's representative with authority to enter into a funding agreement and carry out the project (e.g., Chief Executive or Financial Officer, Executive Director, City Manager, etc.), or 2) a signed resolution from the governing body (e.g., City Council, Board of Supervisors, Board of Directors, etc.) authorizing the submittal of the application and authorizing the project to be carried out.
5. **Viable Project and Matching Funds:** Unless provided for otherwise in the policies and priorities for the specific project category (which are listed below), project applicants must include in the application evidence of available matching funds from a non-Air District source that equal or exceed at least 10% of the total eligible project costs.

   The project must be financially viable, which means that the project sponsor has adequate funds to cover all stages of the project from its commencement through project completion. Applications must include evidence of financial resources sufficient to undertake and complete the project. The project sponsor shall not enter into a TFCA Regional Fund funding agreement until all non-Air District funding has been approved and secured.
6. **Minimum Grant Amount:** $10,000 per project.
7. **Maximum Grant Amount:** Maximum award per calendar year:
   a. **Each public agency** may be awarded up to $1,500,000, and
   b. **Each non-public entity** may be awarded up to $500,000.
8. **Readiness:** Projects must commence by the end of calendar year 2014. "Commence" includes any preparatory actions in connection with the project's operation or implementation. For purposes of this policy, "commence" can mean the issuance of a purchase order to secure project vehicles and equipment; commencement of shuttle/feeder bus and ridesharing service; or the delivery of the award letter for a construction contract.
9. **Maximum Two Years Operating Costs:** Service-based projects such as shuttle/feeder bus and ridesharing programs, may receive TFCA Regional Funds for up to two (2) years of operation or implementation. Projects that request up to $100,000 annually in TFCA Regional Funds are eligible to apply for two years of funding. Projects that request more than $100,000 annually in TFCA Regional Funds are eligible for only one year of funding.
10. **Project Revisions:** Project revisions initiated by the project sponsor which significantly change the project before the allocation of funds by the Air District Board of Directors may not be accepted. Following Air District Board of Directors allocation of funds for a project, an applicant may request revisions to that project that the applicant deems necessary or advisable to carry out the purposes of the project, based on information the applicant received after the Board's allocation of funding. The Air District will consider only requests that are within the eligible project category as the original project, meet the same cost-effectiveness as that of the original project application, comply with all TFCA Regional Fund Policies applicable for the original project, and are in compliance with all federal and State laws applicable to the revised project and District rules and regulations.

APPLICANT IN GOOD STANDING

11. **In Compliance with Agreement Requirements:** Project sponsors who have failed to meet project implementation milestones or who have failed to fulfill monitoring and reporting requirements for any project funded by the Air District may not be considered eligible for new funding until such time as all of the unfulfilled obligations are met.

12. **Independent Air District Audit Findings and Determinations:** Project sponsors who have failed either a fiscal audit or a performance audit for a prior Air District funded project will be excluded from future funding for five (5) years from the date of the Air District's final determination in accordance with HSC section 44242. Additionally, project sponsors with open projects will not be reimbursed for those projects until all audit recommendations and remedies have been satisfactorily implemented.

    A failed fiscal audit means an uncorrected audit finding that confirms an ineligible expenditure of funds. A failed performance audit means that a project was not implemented as set forth in the project funding agreement.

    Reimbursement is required where it has been determined that funds were expended in a manner contrary to the TFCA Regional Funds' requirements and requirements of HSC Code section 44220 et seq.; the project did not result in a reduction of air pollution from the mobile sources or transportation control measures pursuant to the applicable plan; the funds were not spent for reduction of air pollution pursuant to a plan or program to be implemented by the TFCA Regional Fund, or otherwise failed to comply with the approved project scope as set forth in the project funding agreement. An applicant who failed to reimburse such funds to the Air District from a prior Air District funded project will be excluded from future TFCA funding.

13. **Signed Funding Agreement:** Only a fully-executed funding agreement (i.e., signed by both the project sponsor and the Air District) constitutes the Air District's award of funds for a project. Approval of an application for the project by the Air District Board of Directors does not constitute a final obligation on the part of the Air District to fund a project.

    Project sponsors must sign a funding agreement within 60 days from the date it has been transmitted to them in order to remain eligible for award of TFCA Regional Funds. The Air District may authorize an extension of up to a total period of 180 days from the transmittal because of circumstances beyond project sponsor's reasonable control and at the Air District's discretion.

14. **Insurance:** Each project sponsor must maintain general liability insurance and such additional insurance that is appropriate for specific projects, with coverage amounts specified in the respective funding agreements throughout the life of the project.

INELIGIBLE PROJECTS

15. **Planning Activities:** Feasibility studies and other planning studies are not eligible for funding by the Air District. Funding may not be used for any planning activities that are not directly related to the implementation of a specific project or program. In addition, land use projects (i.e., Smart Growth, Traffic Calming, and Arterial Management) that have not completed the Preliminary Design phase are not eligible.

16. **Cost of Developing Proposals and Grant Applications:** The costs to develop proposals or prepare grant applications are not eligible for TFCA Regional Funds.

17. **Duplication:** Projects that have previously received TFCA-generated funds and therefore do not achieve additional emission reductions are not eligible.

    Combining TFCA County Program Manager Funds with TFCA Regional Funds to achieve greater emission reductions for a single project is not considered project duplication.

USE OF TFCA FUNDS

18. **Combined Funds:** TFCA County Program Manager Funds may be combined with TFCA Regional Funds to fund a project that is eligible and meets the criteria for funding under both Funds. For the purpose of calculating the TFCA cost-effectiveness, the combined sum of TFCA County Program Manager Funds and TFCA Regional Funds shall be used to calculate the TFCA cost of the project.

19. **Administrative Costs:** Unless provided for otherwise in the policies and priorities for the specific project category (which are listed below), administrative costs (i.e., the costs associated with administering a TFCA Regional Fund grant) are limited to a maximum of five percent (5%) of total TFCA Regional Funds expended on a project and are only available to projects sponsored by public agencies. Electronic bicycle locker projects are not eligible for administrative costs. To be eligible for reimbursement, administrative costs must be clearly identified in the application project budget and in the funding agreement between the Air District and the project sponsor.

20. **Expend Funds within Two Years:** Project sponsors must expend the awarded funds within two (2) years of the effective date of the funding agreement, unless a longer period is formally (i.e., in writing) approved in advance by the Air District in a funding agreement or as an amendment to the funding agreement.

ELIGIBLE PROJECT CATEGORIES

Clean Air Vehicle Projects

21. **Reserved.**
22. **Reserved.**
23. **Reserved.**
24. **Reserved.**
25. **Reserved.**
26. **Reserved.**

Shuttle/Feeder Bus Service Projects

27. **Shuttle/Feeder Bus Service:** These projects are intended to reduce single-occupancy vehicle commute-hour trips by providing the short-distance connection between a mass transit hub and one or more commercial or employment centers. All of the following conditions must be met for a project to be eligible for TFCA Regional Funds:

    a. The project's route must provide connections only between mass transit hubs, e.g., a rail or Bus Rapid Transit (BRT) station, ferry or bus terminal or airport, and distinct commercial or employment areas.

    b. The project's schedule must coordinate with the transit schedules of the connecting mass transit services.

    c. The project may not replace or duplicate existing local transit service or service that ceased to operate within the past five years. Any proposed service that would transport commuters along any segment of an existing or any such previous service is not eligible for funding.

    d. The project must include only commuter peak-hour service, i.e., 5:00-10:00 AM and/or 3:00-7:00 PM.

    For shuttle/feeder bus service projects, the total project cost is the sum of direct operational costs (i.e., shuttle driver wages, fuel, and vehicle maintenance) and the administrative costs paid for by TFCA Regional Funds. Matching funds must be provided to cover at least 10% of the total project cost, and must include only direct operational costs. Administrative costs are not eligible for use as matching funds.

    Shuttle/feeder bus service applicants must be either: (1) a public transit agency or transit district that directly operates the shuttle/feeder bus service, or (2) a city, county, or any other public agency.

    Project applicants that were awarded FYE 2013 TFCA Regional Funds that propose identical routes in FYE 2014 may request an exemption from the requirements of Policy 27. c. These applicants would have to submit a plan demonstrating how they will come into compliance with this requirement within the next three years

28. **Pilot Shuttle/Feeder Bus Service:** Pilot projects are defined as new routes that are at least 70% unique and have not been in operation in the past five years. In addition to meeting the requirements listed in Policy #27 for shuttle/feeder bus service, pilot shuttle/feeder bus service project applicants must also comply with the following:

    a. Applicants must provide data supporting the demand for the service, including letters of support from potential users and providers;

    b. Applicants must provide written documentation of plans for financing the service in the future;

    c. Projects located in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program must not exceed a cost-effectiveness of $500,000/ton during the first year of operation, $125,000/ton for the second year of operation, and $90,000 by the end of the third year of operation (see Policy #2); and

    d. Projects located in CARE areas may receive a maximum of three years of TFCA Regional Funds under the Pilot designation; projects located outside of CARE areas may receive a maximum of two years of TFCA

Regional Funds under this designation. After these time periods, applicants must apply for subsequent funding under the shuttle/feeder bus service designation, described above.

Regional Ridesharing

29. **Regional Ridesharing Projects:** Eligible ridesharing projects provide carpool, vanpool or other rideshare services. For TFCA Regional Fund eligibility, ridesharing projects must be comprised of riders from at least five Bay Area counties, with no one county accounting for more than 80% of all riders, as verified by documentation submitted with the application.

    If a project includes ride-matching services, *only* ride-matches that are not already included in the Metropolitan Transportation Commission's (MTC) regional ridesharing program are eligible for TFCA Regional Funds. Projects that provide a direct or indirect financial transit or rideshare subsidy are also eligible under this category. Applications for projects that provide a direct or indirect financial transit or rideshare subsidy *exclusively* to employees of the project sponsor are not eligible.

Bicycle Facility Projects

30. **Electronic Bicycle Lockers:** TFCA Regional Funds are available for project sponsors to purchase and install new electronic bicycle lockers. Projects must be included in an adopted countywide bicycle plan, Congestion Management Plan (CMP), or the Metropolitan Transportation Commission's Regional Bicycle Plan and serve a major activity center (e.g. transit station, office building, or school).

    Costs for maintenance, repairs, upgrades, rehabilitation, operations, and project administration are not eligible for TFCA Regional Funds.

    The maximum award amount is based on the number of bicycles, at the rate of $2,500 per bicycle accommodated by the lockers.

REGIONAL FUND EVALUATION CRITERIA:

1. **Shuttle/Feeder Bus Service and Ridesharing Projects:** Complete applications received by the submittal deadline will be evaluated based on the TFCA Regional Fund policies. All eligible projects will be ranked for funding based on cost-effectiveness. At least sixty percent (60%) of the funds will be reserved for eligible projects that meet one or more of the following District priorities:

    a. Projects in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program;
    b. Priority Development Areas; and
    c. Projects that significantly reduce greenhouse gasses (GHG).

    The District will evaluate all shuttle/feeder bus service and ridesharing project applications received after the submittal deadline on a first-come-first-served basis, based on the TFCA Regional Fund policies .

2. **Electronic Bicycle Locker(s) Projects:** Applications will be evaluated on a first-come- first-served basis.

TFCA REGIONAL FUND POLICIES AND EVALUATION CRITERIA FOR FYE 2014~~3~~

The following policies apply to the Transportation Fund for Clean Air (TFCA) Regional Fund.

BASIC ELIGIBILITY

1. **Eligible Projects:** Only projects that result in the reduction of motor vehicle emissions within the Air District's jurisdiction are eligible.

   Projects must conform to the provisions of the California Health and Safety Code (HSC) sections 44220 et seq. and Air District Board of Directors adopted TFCA Regional Fund Policies and Evaluation Criteria for FYE 2014~~3~~.

   Projects must achieve surplus emission reductions, ~~-~~i.e., reductions that are beyond what is required through regulations, contracts, and other legally binding obligations both a) at the time the Air District Board of Directors approves a funding allocation and b) at the time the Air District executes the project's funding agreement.

   Under certain circumstances following approval of the project by the Board of Directors, the Air District may approve modifications of the approved project or of the terms of the grant agreement. The Air District will evaluate whether the proposed modification will reduce the amount of emissions the originally-approved project was designed to achieve, will negatively affect the cost-effectiveness of the project or will otherwise render the project ineligible ("major modification"). The Air District may approve the proposed major modification if the Air District determines that the project, as modified, will continue to achieve surplus emission reductions, based on the regulations, contracts, and other legally-binding obligations in effect at the time of the proposed modification. The Air District may approve minor modifications, such as to correct mistakes in the grant agreement or to change the grantee, without a re-evaluation of the proposed modification in light of the regulations, contracts, and other legally-binding obligations in effect at the time of the proposed minor modification.

2. **TFCA Cost-Effectiveness:** Unless otherwise noted below**,** projects must not exceed ~~meet~~ a cost-effectiveness (C-E) of $90,000 per ton. Cost-effectiveness is based on the ratio of TFCA-generated funds awarded divided by the sum total tons of reactive organic gases (ROG), oxides of nitrogen (NO_x), and weighted particulate matter 10 microns in diameter and smaller (PM_{10}) reduced ($/ton).

   Certain project categories further specify the eligible funding amount per item (for example, $/vehicle) which is based on the cost-effectiveness levels below.

Project Category	Policy #	C-E Level Maximum ($/weighted ton)
Reserved	21	Reserved
Reserved	22	Reserved
Reserved	23	Reserved
Reserved	24	Reserved
Reserved	25	Reserved
Reserved	26	Reserved
Shuttle/Feeder Bus Service—Existing	27	$90,000
Shuttle/Feeder Bus Service—Pilot (outside CARE areas)	28	$125,000
Shuttle/Feeder Bus Service—Pilot (in CARE areas)	28	$500,000
Regional Ridesharing	29	$90,000
Electronic Bicycle Lockers	30	$90,000
Reserved	31	Reserved
~~Drayage Truck Replacement Projects~~	~~32~~	~~$90,000~~

3. **Consistent with Existing Plans and Programs:** All project categories must comply with the transportation control measures and mobile source measures included in the Air District's most recently approved strategy(ies)

for achieving and maintaining State and national ozone standards, those plans and programs established pursuant to California Health & Safety Code (HSC) sections 40233, 40717 and 40919, and, when specified~~applicable~~, with other adopted State, regional, and local plans and programs.

4. **Eligible Recipients and Authority to Apply:** Grant recipients must be responsible for the implementation of the project, have the authority and capability to complete the project, and be an applicant in good standing with the Air District (Policies #11 and #12).
   a. **Eligible Recipients**:
      i. **Public agencies** are eligible to apply for all project categories.
      ii. **Non-public entities** are only eligible to apply for new alternative-fuel (light, medium, and heavy-duty) vehicle projects, and advanced technology demonstrations that are permitted pursuant to ~~-~~HSC section 44241(b(7).
   b. **Authority to Apply**: Applications must include either: 1) a signed letter of commitment from ~~an individual~~ the applicant's representative with authority to enter into a funding agreement and carry out the project (e.g., Chief Executive or Financial Officer, Executive Director, City Manager, etc.), or 2) a signed resolution from the governing body (e.g., City Council, Board of Supervisors, Board of Directors, etc.) authorizing the submittal of the application and authorizing ~~identifying the individual authorized to submit and carry out~~ the project to be carried out.
5. **Viable Project and Matching Funds:** Unless provided for otherwise in the policies and priorities for the specific project category (which are listed below), project applicants must include in the application~~s~~ evidence of available matching funds from a non-Air District source that equal or exceed at least 10% of the total eligible project costs.

   The project must be financially viable, which means that the project sponsor has adequate funds to cover all stages of the project from its commencement through project completion. Applications must include evidence of financial resources sufficient to undertake and complete the project. The project sponsor shall not enter into a TFCA Regional Fund funding agreement until all non-Air District funding has been approved and secured.
6. **Minimum Grant Amount:** $10,000 per project.
7. **Maximum Grant Amount:** Maximum award per calendar year:
   a. **Each public agency** may be awarded up to $1,500,000, and
   b. **Each non-public entity** may be awarded up to $500,000.
8. **Readiness:** Projects must commence ~~in~~ by the end of calendar year ~~2013~~ 2014 ~~or sooner~~. "Commence" includes any preparatory actions in connection with the project's operation or implementation. For purposes of this policy, "commence" can mean the issuance of a purchase order to secure project vehicles and equipment; commencement of shuttle/feeder bus and ridesharing service; or the delivery of the award letter for a construction contract.
9. **Maximum Two Years Operating Costs:** Service-based projects such as shuttle/feeder bus and ridesharing programs, may receive TFCA Regional Funds~~funding~~ for up to two (2) years of operation or implementation. Projects that request up to $100,000 annually in TFCA Regional Funds are eligible to apply for two years of funding. Projects that request more than $100,000 annually in TFCA Regional Funds are eligible for only one year of funding.
10. **Project Revisions:** Project revisions initiated by the project sponsor which significantly change the project before the allocation of funds by the Air District Board of Directors may not be accepted. Following Air District Board of Directors allocation of funds for a project, an applicant may request revisions to that project that the applicant deems necessary or advisable to carry out the purposes of the project, based on information the applicant received after the Board's allocation of funding. The Air District will consider only requests that are within the eligible project category as the original project, meet the same cost-effectiveness as that of the original project application, comply with all TFCA Regional Fund Policies applicable for the original project, and are in compliance with all federal and State laws applicable to the revised project and District rules and regulations.

APPLICANT IN GOOD STANDING

11. **In Compliance with Agreement Requirements:** Project sponsors who have failed to meet project implementation milestones or who have failed to fulfill monitoring and reporting requirements for any project funded by the Air District may not be considered eligible for new funding until such time as all of the unfulfilled obligations are met.

12. **Independent Air District Audit Findings and Determinations:** Project sponsors who have failed either a fiscal audit or a performance audit for a prior Air District funded project will be excluded from future funding for five (5) years from the date of the Air District's final determination in accordance with HSC section 44242. Additionally, project sponsors with open projects will not be reimbursed for those projects until all audit recommendations and remedies have been satisfactorily implemented.

    A failed fiscal audit means an uncorrected audit finding that confirms an ineligible expenditure of funds. A failed performance audit means that a project was not implemented as set forth in the project funding agreement.

    Reimbursement is required where it has been determined that funds were expended in a manner contrary to the TFCA Regional Funds~~Program's~~ requirements and requirements of HSC Code section 44220 et seq.; the project did not result in a reduction of air pollution from the mobile sources or transportation control measures pursuant to the applicable plan; the funds were not spent for reduction of air pollution pursuant to a plan or program to be implemented by the TFCA Regional Fund~~Program~~, or otherwise failed to comply with the approved project scope as set forth in the project funding agreement. An applicant who failed to reimburse such funds to the Air District from a prior Air District funded project will be excluded from future TFCA funding.

13. **Signed Funding Agreement:** Only a fully-~~-~~executed funding agreement (i.e., signed by both the project sponsor and the Air District) constitutes the Air District's award of funds for a project. Approval of an application for the project by the Air District Board of Directors does not constitute a final obligation on the part of the Air District to fund a project.

    Project sponsors must sign a funding agreement within 60 days from the date it has been transmitted to them in order to remain eligible for award of TFCA Regional Funds. The Air District may authorize an extension of up to a total period of 180 days from the transmittal because of circumstances beyond project sponsor's reasonable control and at the Air District's discretion.

14. **Insurance:** Each project sponsor must maintain general liability insurance and such additional insurance that is appropriate for specific projects, with coverage amounts specified in the respective funding agreements throughout the life of the project.

INELIGIBLE PROJECTS

15. **Planning Activities:** Feasibility studies and other planning studies are not eligible for funding by the Air District. Funding may not be used for any planning activities that are not directly related to the implementation of a specific project or program. In addition, land use projects (i.e., Smart Growth, Traffic Calming, and Arterial Management) that have not completed the Preliminary Design phase are not eligible.

16. **Cost of Developing Proposals and Grant Applications:** The costs to develop proposals or prepare grant applications are not eligible for TFCA Regional Funds~~funding~~.

17. **Duplication:** Projects that have previously received TFCA-generated funds and therefore do not achieve additional emission reductions are not eligible.

    Combining TFCA County Program Manager Funds with TFCA Regional Funds to achieve greater emission reductions for a single project is not considered project duplication.

USE OF TFCA FUNDS

18. **Combined Funds:** TFCA County Program Manager Funds may be combined with TFCA Regional Funds to fund a project that is eligible and meets the criteria for funding under both Funds. For the purpose of calculating the TFCA cost-effectiveness, the combined sum of TFCA County Program Manager Funds and TFCA Regional Funds shall be used to calculate the TFCA cost of the project.

19. **Administrative Costs:** Unless provided for otherwise in the policies and priorities for the specific project category (which are listed below), ~~A~~administrative costs (i.e., the costs associated with administering a TFCA Regional Fund grant) are limited to a maximum of five percent (5%) of total TFCA Regional Funds expended on a project and are only available to projects sponsored by public agencies. Electronic bicycle locker projects are not eligible for administrative costs. To be eligible for reimbursement, administrative costs must be clearly identified in the application project budget and in the funding agreement between the Air District and the project sponsor.

20. **Expend Funds within Two Years:** Project sponsors must expend the awarded funds within two (2) years of the effective date of the funding agreement, unless a longer period is formally (i.e., in writing) approved in advance by the Air District in a funding agreement or as an amendment to the funding agreement.

ELIGIBLE PROJECT CATEGORIES

Clean Air Vehicle Projects

21. **Reserved.**

22. **Reserved.**

23. **Reserved.**

24. **Reserved.**

25. **Reserved.**

26. **Reserved.**

Shuttle/Feeder Bus Service Projects

27. **Shuttle/Feeder Bus Service:** These projects are intended to reduce single-occupancy vehicle commute-hour trips by providing the short-distance connection ~~link~~ between a mass transit hub ~~(e.g., rail or Bus Rapid Transit (BRT) station, ferry or bus terminal or airport) to or from~~ and ~~a final destination~~one or more commercial or employment centers. ~~These projects are intended to reduce single-occupancy, commonly-made vehicular trips (e.g., commuting or shopping center trips) by enabling riders to travel the short distance between a mass transit hub and the nearby final destination. The final destination must be a distinct commercial, employment or residential area. The project's route must operate to or from a mass transit hub and must coordinate with the transit schedules of the connecting mass transit services. Project routes cannot replace or duplicate an existing local transit service link. These services are intended to support and complement use of existing major mass transit services.~~ All of the following conditions must be met for a project to be eligible for TFCA Regional Funds:

    a. The project's route must provide connections only between mass transit hubs, e.g., a rail or Bus Rapid Transit (BRT) station, ferry or bus terminal or airport, and distinct commercial or employment areas.

    b. The project's schedule must coordinate with the transit schedules of the connecting mass transit services.

    c. The project may not replace or duplicate existing local transit service or service that ceased to operate within the past five years. Any proposed service that would transport commuters along any segment of an existing or any such previous service is not eligible for funding.

    d. The project must include only commuter peak-hour service, i.e., 5:00-10:00 AM and/or 3:00-7:00 PM.

    For shuttle/feeder bus service projects, the total project cost is the sum of direct operational costs (i.e., shuttle driver wages, fuel, and vehicle maintenance) and the administrative costs paid for by TFCA Regional Funds. Matching funds must be provided to cover at least 10% of the total project cost, and must include only direct operational costs. Administrative costs are not eligible for use as matching funds.

Shuttle/feeder bus service applicants must be either: (1)

~~A~~a public transit agency or transit district that directly operates the shuttle/feeder bus service, or (2) ~~;~~

~~A~~a city, county, or any other public agency.

Project applicants that were awarded FYE 2013 TFCA Regional Funds that propose identical routes in FYE 2014 may request an exemption from the requirements of Policy 27. c. These applicants would have to submit a plan demonstrating how they will come into compliance with this requirement within the next three years

~~The project applicant must submit documentation from the General Manager of the transit district or transit agency that provides service in the area of the proposed route, which demonstrates that the proposed service does not duplicate or conflict with existing service.~~

~~Applicants are strongly encouraged to use the cleanest vehicle powered with the best available technology (e.g., electric, hydrogen) to provide the shuttle/feeder bus service.~~

~~Eligible vehicle types include:~~

~~a. A zero-emission vehicle (e.g. electric, hydrogen)~~
~~b. An alternative fuel vehicle (e.g. compressed natural gas, liquefied natural gas, propane);~~
~~c. A hybrid-electric vehicle;~~
~~d. A post-1997 diesel vehicle with a CARB Verified Diesel Emission Control Strategy (e.g., retrofit); or~~
~~e. A post-1989 gasoline-fueled vehicle.~~

28. **Pilot Shuttle/Feeder Bus Service:** Pilot projects are defined as new routes that are at least 70% unique and have not been in operation in the past five years. In addition to meeting the requirements listed in Policy #27 for ~~S~~shuttle/~~F~~feeder ~~B~~bus ~~S~~service, pilot shuttle/feeder bus service project applicants must also comply with the following:

    a. Applicants must provide data supporting the demand for the service, including letters of support from potential users and providers~~,~~;

    b. ~~-~~Applicants must provide written documentation of ~~and~~ plans for financing the service in the future;

    c. Projects located in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program ~~. Pilot projects~~ must ~~meet and maintain~~not exceed a ~~minimum~~cost-effectiveness of $500,000/ton during the first year of operation, $125,000/ton ~~during the first~~for the second year of operation, and ~~a minimum cost-effectiveness of~~ $90,000 by the end of the ~~second~~ third year of operation (see Policy #2);

    ~~a.~~ d. Projects located in CARE areas may ~~only~~ receive a maximum of ~~two~~ three years of ~~funding~~ TFCA Regional Funds under the Pilot designation~~;~~ projects located outside of CARE areas may receive a maximum of two years of TFCA Regional Funds under this designation. After these time periods, ~~A~~applicants must apply for subsequent funding under the ~~S~~shuttle/~~F~~feeder ~~B~~bus service designation, described above.

Regional Ridesharing

29. **Regional Ridesharing Projects:** Eligible ridesharing projects provide carpool, vanpool or other rideshare services. For TFCA Regional Fund eligibility, ridesharing projects must be comprised of riders from at least five Bay Area counties, with no one county accounting for more than 80% of all riders, as verified by documentation submitted with the application.

    If a project includes ride-matching services, *only* ride-matches that are not already included in the ~~Ride matching services must be coordinated with the~~ Metropolitan Transportation Commission's (MTC) regional ridesharing program are eligible for TFCA Regional Funds. Projects that provide a direct or indirect financial transit or rideshare subsidy are also eligible under this category. Applications for projects that provide a direct or indirect financial transit or rideshare subsidy *exclusively* to employees of the project sponsor are not eligible.

Bicycle Facility Projects

30. **Electronic Bicycle Lockers:** TFCA Regional Funds ~~Funding is~~are available for project sponsors to purchase and install new electronic bicycle lockers. Projects must be included in an adopted countywide bicycle plan,

Congestion Management Plan (CMP), or the Metropolitan Transportation Commission's Regional Bicycle Plan and serve a major activity center (e.g. transit station, office building, or school).

Costs for maintenance, repairs, upgrades, rehabilitation, operations, and project administration are not eligible for TFCA Regional Fundsfunding.

The maximum award amount is based on the number of bicycles, at the rate of $2,500 per bicycle accommodated by the lockers.

Reserved.

Drayage Truck Replacement Projects

Drayage Truck Replacement Projects: Projects that replace Class 8 (33,001 lb GVWR or greater) drayage trucks with engine Model Years (MY) of 2004, 2005 or 2006 with trucks that have engines certified to 2007 California Air Resources Board (CARB) emissions standards or cleaner are eligible for funding. The existing trucks with the 2004, 2005, or 2006 engines must be registered with the California Department of Motor Vehicles (DMV) and with the CARB drayage truck registry to a Bay Area address, and must be taken out of service after replacement.

REGIONAL FUND EVALUATION CRITERIA:

1. **Shuttle/Feeder Bus Services and Ridesharing Projects:** Complete applications received by the submittal deadline that meet the eligibility criteria, will be evaluated based on the TFCA Regional Fund policies. All eligible projects will be ranked for funding based on cost-effectiveness. At least sixty percent (60%) of the funds will be reserved for eligible projects that meet one or more of the following District priorities:

   a. Projects in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program;

   b. Priority Development Areas; and

   c. Projects that significantly reduce greenhouse gasses (GHG).

   The District will evaluate all shuttle/feeder bus service and rRidesharing project applications received after the submittal deadline on a first-come-first-served basis, based on the TFCA Regional Fund policies, based on cost-effectiveness.

2. Electronic Bicycle Locker(s) and Drayage Truck Replacement Projects: Applications will be evaluated on a first--come-- first--served basis.

Commenter and Agency	Comment	Staff Response
Zach Seal City of Oakland	**Policy #27c- Shuttle/Feeder Bus Service:** The City of Oakland agrees that the BAAQMD TFCA program should not fund shuttle routes that provide service along corridor or stretches of corridors where existing public bus service already provides reliable linkages between transit hubs and final destinations. However, the proposed language is too broad. It would exclude shuttles that are similar to existing bus service in some respects, but distinct enough to attract new passengers to abandon their cars for public transit. Therefore, the City of Oakland proposes the following language for Policy 27c (added language is underlined): *The project may not replace or duplicate existing local transit service or service that ceased to operate within the past five years <u>if that service provides/provided frequent and reliable linkages between transit hubs and final destinations</u>. Any proposed service that would transport commuters along any segment of an existing or any such previous service is not eligible for funding <u>unless the applicant provides evidence and/or data that (a) the features of the proposed shuttle service are distinct enough from existing or such previous service to attract a significant new ridership base of people who would switch from single-occupancy vehicles if only the existing local transit service or any such previous service were available.</u>* *<u>Examples of shuttle features that would be considered distinct enough from existing or such previous service include:</u>* • *<u>Route and stops. The shuttle route and/or stop locations deviate from existing or previous service in such a way that attracts new transit passengers who would otherwise drive single-occupancy vehicles to their destinations if only the existing local transit service or any such previous service were available.</u>* • *<u>Service Plan. The service frequency and/or hours of service is distinct from existing or drive single-occupancy vehicles their destination if only the existing local transit service or any such previous service were available.</u>* • *<u>Fare Structure. The fare structure is distinct from existing or previous service in such a way that attracts new transit passengers who would otherwise drive single-occupancy vehicles to their destinations if only the existing local transit service or any such previous service were available.</u>*	See proposed modification to Policy# 27.c. The Air District has been working over the past several years to streamline the TFCA program to ensure that it efficiently meets the growing demand for grant funding across the nine-county Bay Area. For shuttle projects, TFCA Regional Funds are generally directed to services that provide distinct links between transit hubs and employer sites where no other transit options are or have previously been available (Policy# 27 c). This requirement may have been unclear to a number of services that were previously funded under this program. In order to assist those services to comply with the requirements of Policy# 27 c, Staff is currently proposing a limited exemption for projects funded in FYE 2013 that will allow them to comply with all program requirements within three years. Staff also proposes to keep Policy #27 as shown in Attachment A in effect for all new projects to ensure that grant funding is focused on projects that provide first and last-mile connector shuttle/feeder bus service in areas where there are no, or only very limited, transit options.

Commenter and Agency	Comment	Staff Response
Zach Seal City of Oakland	**Policy #27d- Shuttle/Feeder Bus Service:** People use public transit instead of single-occupancy vehicles for a variety of trips other than commute trips: doctor visits, errands, shopping, lunch, to visit social service agencies, etc. California Health and Safety Code Sections 44241 and 44242 (statutory authority for the TFCA program) do not require TFCA-funded projects to serve only commuters, or require projects funded by the program to operate only during commute hours. The goal of these statutes is to get people out of single-occupancy vehicles and onto public transit. In addition, according to the City's Broadway Shuttle survey data, many people who commute to downtown Oakland using transit would switch to driving single-occupancy vehicles to work if they could not depend on shuttle service during the middle of the day to get them to meetings, lunch, errands, etc. Given that shuttle service outside of commute hours also gets people out of cars and reduces greenhouse emissions, the City of Oakland proposes the revisions below (added language is underlined). This language enables the BAAQMD to prioritize commute shuttle service, but still supports off-peak shuttle service that reduces automobile miles traveled by providing linkages between transit hubs and final destinations. Policy 27d: ~~*The project must include only commuter*~~ *Projects shall receive a maximum of $90,000 in funding per ton of emissions (as defined in Policy 2) during peak-hour service, i.e., 6:00-9:00 AM and/or 3:30-6:30 PM. Projects shall receive a maximum of $45,000 in funding per ton of emissions during off-peak hours. In order for applicants to receive off-peak funding for shuttle service, evidence and/or data must be provided demonstrating that people utilize the shuttle service in lieu of single-occupancy vehicles during off-peak hours. Cost-effectiveness for peak-hour service shall be calculated separately from cost-effectiveness for non-peak-hour service.*	See proposed modification to policy 27.d to expand the definition of commute hours. As noted in the previous response, the Air District has been working over the past several years to streamline TFCA funding to ensure that it most efficiently meets the growing demand for grant funding across the nine-county Bay Area. To this end, TFCA dollars spent on shuttle projects are being focused on projects that have the greatest potential to prevent long-distance commute trips. Staff does acknowledge that there are several ways to achieve reductions in single-occupancy vehicle (SOV) trips. Moreover, staff agrees that at least some portion of the riders of shuttle services outside of peak hours likely represents a reduction in SOV trips. However, given that TFCA funding for shuttle projects is limited, staff believes that focusing these funds to provide shuttle services during AM and PM commute hours is the most direct and efficient way to reduce long-distance commute trips. Funding shuttle service during AM and PM commute-hours is the best way to ensure that grant dollars are spent on projects that have the greatest potential to eliminate vehicle trips and support the existing Bay Area public transportation system. As such, for FYE 2014 staff has modified Policy #27 as shown in Attachment A to expand the definition of commute hours while still ensuring that grant funding is available to projects that provide commute -hour service.
Susan Wheeler, Community Development Department City of Redwood City	**Policy #27d- Shuttle/Feeder Bus Service:** I noticed that on p. 4 of 6, item 27.d. the draft proposes restricting shuttle projects to commuter peak-hour service, defined as 6:00-9:00 AM and/or 3:30-6:30 PM. Several Bay Area commute shuttles currently run a bit outside those times. For example, Redwood City's Mid Point Caltrain Shuttle (TFCA-funded) operates after 6:30 pm; the last shuttle arrives at the Caltrain station at 6:47 PM to meet the 6:52 (NB and 7:06 (SB) trains.	See proposed modification to policy 27.d to expand the definition of commute hours. Staff has modified Policy 27d to extend the AM and PM commute hours to 5-10 AM and 3-7 PM in line with Bay Area High Occupancy Vehicle (HOV) lane times. These times encompass all Bay Area HOV lane parameters and reflect peak congestions hours on highways. Staff believes that these time periods appropriately represent regional commute patterns across the nine-county Bay Area. See: http://rideshare.511.org/511maps/hov_lanes.aspx.

Commenter and Agency	Comment	Staff Response
Mark Helmbrecht, Transportation Programs Manager The Presidio Trust	1. We are concerned that the new criteria will only fund services during commuter peak hours. It was explained to us that this new criteria was added to fund services that eliminate regular commute trips. Our service is offered throughout the day, at reduced headways, and serves to eliminate vehicle trips between the Presidio, downtown San Francisco, and major transit hubs (i.e., Embarcadero BART, Transbay Terminal, Ferry Building) for the park's visitors, residents, tenants, and Presidio Trust employees. Please consider changing the criteria to include all operations on existing shuttle/feeder bus services.	See proposed modification to policy 27.d to expand the definition of commute hours. Please see the second and third responses that address limiting funding to AM and PM hour-commute trips and the hours considered as AM and PM commute hours.
	2. In the Basic Eligibility Section 27.d.the commuter peak-hour service hours listed are 6:00 a.m. to 9:00 a.m. in the morning and 3:30 p.m. to 6:30 p.m. We got clarification that these time periods are examples and would not be restricted to these exact times. We request clarified language that states a submitted project can designate the commuter peak-hour service times that work best for that project. If that is not acceptable, then please expand the hours to 5:00 a.m. to 10:00 a.m. and 3:00 p.m. to 8:00 p.m. to better cover the extended commute times experienced in San Francisco.	See proposed modification to policy 27.d to expand the definition of commute hours. Please see the third response that addresses the hours considered as AM and PM commute hours.
	3. Our operations costs include all headways we offer, including those during the middle of the day. While we could break these costs down in order to meet the new criteria for commuter peak-hour service, it is not a full representation of the cost to operate our shuttle system. Since these costs will be used to determine the amount of funding we receive, we would like it clarified on how the funding criteria will be weighted, how the amounts of funding will be determined, and what organizations are obligated to contribute towards matching funds.	See proposed modification to policy 27.d to expand the definition of commute hours. Since the Policy limits TFCA funding to the AM and PM peak-hour, applicants will have to indicate the *total* costs of operation *during* those time periods in the grant application budget. Applicants will continue to be required to contribute a minimum of 10% of these peak-hour operational costs as matching funds. As in previous years, funding for projects will be determined principally by the project's cost-effectiveness. In turn, cost-effectiveness is determined by the emission reductions achieved by the project and the TFCA funds requested. For FYE 2014, only the emissions reduced *during* peak-hours will be considered, which will be governed by project-specific variables (e.g., peak-hour ridership, peak-hour mileage of shuttle vehicles, etc.). Likewise, only the TFCA dollars requested to operate *during* those peak hours will be used to calculate the cost-effectiveness of the project. Any costs to operate the service outside of the peak-hour period are not relevant to the TFCA cost-effectiveness. Please note that Policy #27 does not limit an applicant from providing shuttle/feeder bus service during off-peak hours. Rather, the proposed policy limits TFCA Regional Fund Program funds to operational costs during peak-hour service.

Commenter and Agency	Comment	Staff Response
Marcella Rensi Manager, Program and Grants Santa Clara Valley Transportation Authority	VTA objects to the proposed policy 27-d, which states "The project must include only commuter peak-hour service, i.e., 6:00-9:00 AM and/or 3:30-6:30 PM." VTA has been an annual TFCA Regional Fund recipient for the ACE Shuttle program for the last 15 years and feels this policy is unnecessary. Although the ACE shuttles would not be affected by policy 27-d, VTA feels that the TFCA Cost-Effectiveness policy #2 effectively screens out low-performing routes. A hypothetical shuttle serving an "off-peak" trip generator would have to meet cost effectiveness criteria regardless the hours of operation. If such a route were cost effective according to policy #2, it should not matter when it operates, making policy 27-d unnecessary.	See proposed modification to policy 27.d to expand the definition of commute hours. Please see the first two responses that address maximizing regional benefit of available funds and limiting funding to AM and PM peak-hour commute trips.
Steve McClain ACE Shuttle Program VTA	**Policy #27- Shuttle/Feeder Bus Service:** … I have a comment on the proposed policy 27-d, which states "the project must include only commuter peak-hour service, i.e., 6:00-9:00 AM and/or 3:30-6:30 PM." If the Air District does implement that restriction, I recommend that the eligible commute peak-hour service hours be expanded to 6-10 and 3-7, which reflect a truer pattern of commute hours in the Bay Area Region today.	See proposed modification to policy 27.d to expand the definition of commute hours. Please see the third response that addresses the hours considered as AM and PM peak hours.

The following concepts for modification of the TFCA Regional Fund Program have been developed for discussion with the Bay Area Air Quality Management District's shuttle and rideshare partners.

- ***Concept 1: Discontinue Use of TFCA Regional Funding for Shuttles and Ridesharing:***

Under this scenario, the TFCA Regional Fund Program would no longer provide funding to shuttle and rideshare projects. The funds that have been set aside for these project types ($4 million annually in the last several years) would be made available to other eligible project categories. Cost-effective shuttle and ridesharing projects would still be eligible to apply for TFCA funds from the CMA administered TFCA CPM Program. This may help the TFCA program better aligned with the regional transportation planning perform by the Metropolitan Transportation Commission and provide funding for other priorities such as bicycle sharing.

- ***Concept 2: Limit Funding to New, Pilot Shuttle Projects (no change to Ridesharing):***

This scenario seeks to expand the number of shuttle services by providing new services access to start-up funding. Funding would only be available for startup costs for new shuttle projects for a period of up to five years allowing new projects adequate time to develop and secure non-TFCA sources of funding. Under this scenario a phase-out period would be provided to projects that have historically received TFCA Regional Funds in previous funding cycles allowing them a two to three-year period to secure non-TFCA funds. Cost-effective non-pilot projects would still be eligible to apply for TFCA funds from the CMA administered TFCA County Program Manager (CPM) Program.

- ***Concept 3: Standardize Shuttle Project Funding Amounts (no change to Ridesharing):***

Under this scenario, staff would develop a standardized formula based on key criteria (i.e., usage and ridership data, or vehicle emissions data, etc. to determine a pre-set award amount that would ensure projects are cost-effective (for example, in the Bicycle Facility Program it has been pre-determined that $60/capacity is the "right" award amount). The formula could be applied to existing and /or pilot projects. Also, the award amount could be differentiated depending on whether the project was new or existing or located in a CARE area. This option would simplify the application process and provide applicants a better understand of the amount of funding their project is eligible to receive.

- ***Concept 4: Limit Funding to Existing Projects (Shuttles and Ridesharing):***

Under this scenario, Regional Funds would be limited to projects that are currently in operation and that have ridership and usage data. However, funding for pilot projects would still be available via the Congestion Management Agencies (CMA). This option addresses the challenge posed by projects that have no usage data by allowing CMAs to fund locally-prioritized pilot projects until they have developed their services and the ridership data necessary to become eligible and able to compete for Regional Funding.

- ***Concept 5: Limit Applicants to Transit Agencies:***

Under this scenario, transit agencies would be eligible to apply for funds for local projects. Staff believes that transit agencies are most knowledgeable on what gaps need to be filled in their transit networks, and this scenario would provide the opportunity to directly focus funds on those gaps. This option would eliminate the inefficiency of involving a third party applying for funding and streamline funding. Staff believes this concept would also serve to eliminate or minimize the duplication of service.

- ***Concept 6: TFCA Regional Shuttle & Ridesharing Funds to be Administered by CMAs:***

This scenario would remove both shuttle and rideshare projects from the TFCA Regional Fund portfolio and consolidate these project categories under the CPM program. Given that many CMAs currently fund local shuttle and ridesharing programs they may be more in tune with their local community's needs and priorities facilitate the strategic deployment of funds to best fill any gaps in ridesharing and shuttle services. Under this scenario, on an annual basis, CMAs would be informed of their counties' proportional share of the TFCA Regional Fund allocation that could be used to fund eligible projects in their county. For counties that do not have these projects types, the CMA could "Opt-Out" and the Air District would apply their share of Regional Funds to other District-funded programs (e.g., EV, bikesharing projects) in the respective County.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Ash Kalra and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: October 10, 2013

Re: Public Hearing to Consider Adoption of Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries; and Adoption of a CEQA Negative Declaration

RECOMMENDED ACTION

Staff recommends that the Board of Directors take the following actions:

- Adopt Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries;
- Adopt a Negative Declaration pursuant to the California Environmental Quality Act (CEQA) for the proposed amendments.

BACKGROUND

Regulation 9, Rule 10 sets emission limits for nitrogen oxides (NOx) and carbon monoxide (CO) from boilers, steam generators and process heaters in petroleum refineries to reduce ozone-forming emissions to the atmosphere, and reduce exposure to CO, a criteria air contaminant. The rule applies a refinery-wide, daily average NOx limit of 0.033 pounds of NOx per million BTU of heat input for most heaters. Regulation 9-10 was last amended on December 15, 2010 to reduce NOx emissions from CO boilers - a specific type of heater that is not subject to the daily average NOx limit. At the December 15, 2010 public hearing, the Board directed staff to work with refineries to consider an alternative standard to the daily average NOx limit so that refineries could more easily replace or modernize heaters subject to the standard. The proposed amendments provide refineries such flexibility and enhance the enforceability of the rule.

DISCUSSION

The proposed amendments: 1) establish a voluntary, alternative, mass-based NOx limit for heaters currently subject to the daily average NOx limit of 0.033 pounds of NOx per million BTU of heat input; 2) increase continuous emissions monitoring systems (CEMS) coverage on heaters subject to the daily average NOx limit; and 3) establish a new reporting requirement for refinery operators to provide data on burners in each heater. The purpose of the amendments is to: 1) provide operational flexibility to refinery operators and encourage energy efficiency improvements, and thus lower greenhouse gas emissions while preserving NOx emission

reductions achieved under the current NOx standard; 2) improve the enforceability of the rule; and 3) gather information to inform future regulatory efforts relating to these heaters.

RULE DEVELOPMENT PROCESS

The proposed amendments to Regulation 9, Rule 10 stem from work that commenced even before the 2010 amendments to the rule. Formal presentations by staff include two presentations to the Stationary Source Committee on the rule development process on March 19, 2012 and September 16, 2013, and a public workshop on draft amendments on December 4, 2012 in Martinez, CA. Based on the comments received, staff prepared an amended regulatory draft and released it for further comment on May 29, 2013. Throughout the rule development process, staff has met and communicated often with representatives from each refinery and with the Western States Petroleum Association to consider comments and clarify provisions of the proposed rule.

Pursuant to the California Environmental Quality Act (Public Resources Code § 21000 et seq.), an initial study for the proposed amendments has been conducted, concluding that the proposed rule would not have significant adverse environmental impacts. Notice is hereby given that the District intends to adopt a negative declaration for the rule pursuant to Public Resources Code section 21080(c) and CEQA Guidelines section 15070 et seq.

A public hearing notice; copies of the proposed amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries; the CEQA initial study and Negative Declaration; a socioeconomic analysis; and a staff report were posted on September 9, 2013 on the District's website at http://www.baaqmd.gov/pln/ruledev/regulatory_public_hearings.htm. Copies are also available by request.

MINOR CHANGES TO THE RULE SINCE PUBLICATION

Staff has made two minor changes to the rule since publication on September 9, 2013. In Section 9-10-407, staff has added the word "non-identical" to clarify the meaning of the section. In Section 9-10-505.3, an error in numbering another section has been corrected. Both changes have been made in double strike-through and double underlined text in the attached proposal. Neither change is substantive and the changes do not require a continuation of the hearing to adopt the proposed amendments.

BUDGET CONSIDERATIONS/FINANCIAL IMPACTS

None. District staff already permits and inspects the affected facilities, and fees necessary to administer the alternative NOx standard are already included in Regulation 3: Fees.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Julian Elliot
Reviewed by: Henry Hilken

Attachments:

Proposed Amendments to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

Staff Report, including Appendices:

A. Example Calculations of Implementation of Alternate NOx Standard
B. Comments on Final Proposal and Responses
C. Socioeconomic Analysis
D. CEQA Initial Study and Negative Declaration

REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 10
NITROGEN OXIDES AND CARBON MONOXIDE FROM BOILERS, STEAM GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES

INDEX

REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 10
NITROGEN OXIDES AND CARBON MONOXIDE FROM BOILERS, STEAM GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES

(Adopted January 5, 1994)

9-10-100 GENERAL

9-10-101 Description: This rule limits the emissions of nitrogen oxides and carbon monoxide from boilers, steam generators, and process heaters, including CO boilers, in petroleum refineries.

(Amended December 15, 2010)

9-10-110 Exemptions: The requirements of this rule shall not apply to the following:

110.1 Boilers, steam generators and process heaters with a rated heat input less than 2 million BTU/hour, if fired exclusively with natural gas, liquefied petroleum gas, or any combination thereof.

110.2 Boilers, steam generators and process heaters with a rated heat input less than 1 million BTU/hour fired with any fuel.

110.3 Waste heat recovery boilers that are used to recover sensible heat from the exhaust of combustion turbines or reciprocating internal combustion engines.

110.4 Boilers, steam generators and process heaters processing hydrogen sulfide process flue gas in sulfur recovery plants and their tail-gas treating units, or sulfuric acid manufacturing plants.

110.5 Boilers, steam generators and process heaters fired on non-gaseous fuel when natural gas is unavailable for use.

110.6 Boilers, steam generators and process heaters, including CO boilers, that receive an Authority to Construct subject to BACT requirements for NOx on or after January 5, 1994.

(Amended December 15, 2010)

9-10-111 Limited Exemption, Small Units: The requirements of Sections 9-10-301, 303, ~~and~~ 305 and 308 shall not apply to the use of any small units, provided the requirements of Section 9-10-306 are satisfied.

(Amended 7/17/02; 12/15/10)

9-10-112 Limited Exemption, Low Fuel Usage: The requirements of Sections 9-10-301, 303, ~~and~~ 305 and 308 shall not apply to the use of any boiler, steam generator or process heater that has an annual heat input less than 90,000 therms during each consecutive 12-month period or that accepts a condition in its ~~Title V~~ Permit to Operate limiting the annual heat input to less than 90,000 therms, provided the requirements for small units in~~of~~ Section~~s~~ 9-10-306 ~~and~~ are satisfied and a fuel-flow meter as described in Section 9-10-502.2 ~~are satisfied~~ is maintained and operated.

(Amended 7/17/02; 12/15/10)

9-10-113 Limited Exemption, Alternate NOx Compliance Plan: The requirements of Section 9-10-301 shall not apply to the use of any boiler, steam generator or process heater at a refinery subject to Section 9-10-308.

9-10-200 DEFINITIONS

9-10-201 Deleted December 15, 2010

9-10-202 Boiler or Steam Generator: Any combustion equipment used to produce steam or heat water.

9-10-203 British Thermal Unit (BTU): The amount of heat required to raise the temperature of one pound of water from 59^{o} F to 60^{o} F at one atmosphere.

9-10-204 **CO Boiler:** A CO boiler is any boiler or furnace that processes the off-gases from a catalytic cracking unit (CCU) regenerator or a coker burner. A partial-burn CO boiler normally processes off-gases from a CCU regenerator that is operated in a partial-burn mode such that the off-gases normally have a CO concentration exceeding 2% by volume.

(Amended December 15, 2010)

9-10-205 **Deleted December 15, 2010**

9-10-206 **Heat-Input**: The heat of combustion released due to burning a fuel in a source, using higher heating value of the fuel. This does not include the sensible heat of incoming combustion air. In the case of carbon monoxide boilers, the heat input includes the sensible heat of regenerator off-gases and the heat of combustion of the incoming carbon monoxide and of the auxiliary fuel.

9-10-207 **Higher Heating Value (HHV):** The total heat liberated per mass of fuel burned (BTU per pound) when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions per Section 9-10-604.

9-10-208 **Natural Gas:** Any mixture of gaseous hydrocarbons containing at least 80 percent methane by volume, as determined according to Standard Method ASTM D1945-64.

9-10-209 **Nitrogen Oxides (NOx):** The sum of nitric oxide (NO) and nitrogen dioxide (NO_2) in the flue gas, collectively expressed as nitrogen dioxide.

9-10-210 **Non-Gaseous Fuel:** Any fuel that is not a gas at 68^{o} F and one atmosphere.

(Amended December 15, 2010)

9-10-211 **Operating Day:** 24 hours from midnight to midnight.

9-10-212 **Out of Service:** The period of time during which a unit is in an inactive state following shutdown.

9-10-213 **Petroleum Refinery:** Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives.

9-10-214 **Process Heater:** Any combustion equipment that transfers heat from combustion gases to water or process streams.

9-10-215 **Rated Heat Input:** The heat input capacity specified on the nameplate of the combustion source. If the combustion source has been physically modified and/or operated in such a manner that its maximum heat input is different from the heat input capacity specified on the nameplate, then the modified maximum heat input per Section 9-10-503 shall be considered as the rated heat input.

9-10-216 **Refinery-wide Emission Rate:** The ratio of the total mass of discharge into the atmosphere of nitrogen oxides, in pounds, to the sum of the actual heat input, in million BTU, calculated over a twenty-four (24) hour operating day.

(Amended December 15, 2010)

9-10-217 **Small Unit:** Any refinery boiler, steam generator or process heater with a rated heat input less than 10 million BTU/hour.

(Amended December 15, 2010)

9-10-218 **Startup or Shutdown:** Startup is that period of time, not to exceed twelve (12) hours unless specifically extended by a ~~Title V~~ Permit to Operate, during which a unit is brought up to its normal operating temperature from a cold start, initially at zero fuel flow, by following a prescribed series of separate steps or operations. Shutdown is that period of time, not to exceed nine (9) hours unless specifically extended by a ~~Title V~~ Permit to Operate, during which a unit is taken out of service from a normal operating mode to an inactive status following a prescribed series of separate steps or operations.

(Amended December 15, 2010)

9-10-219 **Therm:** One hundred thousand (100,000) BTUs.

9-10-220 **Deleted December 15, 2010**

9-10-221 **Best Available Control Technology (BACT):** As defined in Regulation 2, Rule 2.

(Adopted December 15, 2010)

9-10-222 **Curtailed Operation:** Operation of a boiler, steam generator or process heater at no more than 30% of its rated heat input.

(Adopted December 15, 2010)

9-10-300 STANDARDS

9-10-301 Refinery-wide NOx Emission Limit: A person shall not exceed a refinery-wide emission rate from boilers, steam generators and process heaters, excluding CO boilers, of 0.033 pounds NOx per million BTU of heat input, based on an operating day average. Boilers, steam generators and process heaters that are test-fired on non-gaseous fuel, that are undergoing startup or shutdown, or that are temporarily out of service, that are in curtailed operation, or that are test-fired on non-gaseous fuel shall be included in the refinery-wide emission rate as follows:

301.1 Deleted December 15, 2010

301.2 Deleted December 15, 2010

301.3 Units Test-Fired On Non-Gaseous Fuel: For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is fired on non-gaseous fuel for equipment testing shall be taken as the operating day average of NOx emissions at the average heat input over the previous thirty (30) day period. Equipment testing shall not exceed a total of forty-eight (48) hours during any calendar year for any one unit.

301.4 Units in Start-up or Shutdown or in Curtailed Operation: For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is undergoing startup or shutdown, or that is in Curtailed Operation shall be one of the following:

4.1 The operating day average NOx emissions (either from a continuous emission monitoring system (CEMS) or from an equivalent parametric monitoring system developed in accordance with a ~~Title V~~ Permit to Operate and Section 9-10-502.1), and the operating day heat input.

4.2 The operating day average NOx emissions (either from a CEMS or from an equivalent parametric monitoring system developed in accordance with a ~~Title V~~ Permit to Operate and Section 9-10-502.1), and the operating day heat input averaged over the previous thirty (30) day period or, subject to the approval of the APCO, an alternate 30-day period representative of normal operation.

301.5 Units Temporarily Out of Service: For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is temporarily out of service shall be the operating day average NOx emissions (either from a continuous emission monitoring system (CEMS) or from an equivalent parametric monitoring system developed in accordance with a ~~Title V~~ Permit to Operate and Section 9-10-502.1), and the operating day heat input, averaged over the previous thirty (30) day period or, subject to the approval of the APCO, an alternate 30-day period representative of normal operation.

(Amended December 15, 2010)

9-10-302 Deleted July 17, 2002

9-10-303 Federal Refinery-wide and CO Boiler NOx Emission Limits: A person shall not exceed a refinery-wide emission rate from boilers, steam generators or process heaters, excluding CO boilers, of 0.20 pounds NOx per million BTU of heat input, based on an operating day average.

303.1 Except during startup and shutdown, a person shall not operate a CO boiler unless the emissions of nitrogen oxides (NOx) do not exceed 300 ppmv, dry at 3% oxygen, based on an operating day average.

(Amended 7/17/02; 12/15/10)

9-10-304 Interim NOx Emission Limit For CO Boilers: Until Section 9-10-307 is effective, and except during startup and shutdown, a person shall not operate a CO boiler unless at least one of the following is met:

304.1 Emissions of nitrogen oxides (NOx) do not exceed 150 ppmv, dry at 3% oxygen, based on an operating day average; or

304.2 Emissions of nitrogen oxides (NOx) are controlled by an emission control system with a NOx control efficiency of at least 50 percent by weight.

(Amended December 15, 2010)

9-10-305 CO Emission Limit: Except during start-up, shutdown or curtailed operation, a person shall not operate a boiler, steam generator or process heater, including CO boilers, unless carbon monoxide emissions of 400 ppmv, dry at 3% oxygen, based on an operating day average, are not exceeded.

(Amended December 15, 2010)

9-10-306 Small Unit Requirements: A person shall not operate a small unit unless at least one of the following is met:

306.1 Operate in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3 percent by volume on a dry basis; or

306.2 Tune at least once every twelve (12) months, or within two weeks of unit startup if not operated in the last twelve (12) months, by a technician in accordance with the procedure specified in Section 9-10-605; or

306.3 Meet the applicable emission limits in Sections 9-10-301, 303 and 305.

(Amended December 15, 2010)

9-10-307 Final NOx Emission Limits For CO Boilers: Effective January 1, 2015, and except during start-up or shutdown, a person shall not operate a CO boiler unless it meets the applicable NOx emission limits in Sections 9-10-307.1 and 307.2.

307.1 A person shall not operate a non-partial-burn CO boiler, ~~except for a partial-burn CO boiler,~~ unless the following NOx limits are not exceeded:

Averaging Period	NOx (ppmv, dry at 3% O_2)
1.1 Operating day	150
1.2 Calendar year (excluding periods when the CO boiler does not process CCU regenerator offgas)	45

307.2 A person shall not operate a partial-burn CO boiler, unless the following NOx limits are not exceeded:

Averaging Period	NOx (ppmv, dry at 3% O_2)
2.1 Operating day	125
2.2 Calendar year	85

(Adopted December 15, 2010)

9-10-308 Alternate NOx Compliance Plan: A person at a refinery with an Alternate NOx Compliance Plan that has been approved in accordance with Section 9-10-405, shall not exceed the refinery-wide daily NOx limit from boilers, steam generators and process heaters, excluding CO boilers, as specified in the Plan. The boilers, steam generators and process heaters that are covered by the Alternate NOx Compliance Plan shall be referred to as devices in this Section.

308.1 A daily NOx limit shall apply to all devices at a refinery with an approved Alternate NOx Compliance Plan. The limit shall be the sum of the baseline NOx daily emissions for each device, expressed in pounds of NOx. The baseline NOx daily emissions for each device shall be the average of the daily emissions on any ten (10) different days during the 3-year period immediately preceding the date of the application for an Alternate Compliance Plan, on which the refinery operator was in compliance with Section 9-10-301. The same 10 days shall be used for all devices at a refinery. The APCO may consider allowing 10 days within a different time

period, if the APCO finds that a different period allows the selection of operating days that better represent maximum daily emission levels for these devices.

1.1 At any refinery that used Interchangeable Emission Reduction Credits (IERC) to comply with Section 9-10-301 on any of the 10 baseline days, the average difference between actual operating emissions, in pounds NOx/day, and the emissions that would meet the 0.033 pounds NOx/million BTU NOx limit in Section 9-10-301 shall be calculated for the 10 days used to develop the daily NOx limit, and the daily NOx limit shall be reduced by this difference. NOx Emission Reduction Credits (ERC) generated in accordance with Regulation 2, Rule 2 may be surrendered on a one-time basis at a 1.15 to 1 ratio to make up all or part of the difference, and the daily NOx emissions limit will be adjusted accordingly.

1.2 At any refinery with an Authority to Construct application submitted before the date of approval of an Alternate Compliance Plan described in Section 9-10-405, if the actions permitted in the Authority to Construct would reduce the number of devices subject to Section 9-10-301 and require additional NOx emissions reductions to comply with Section 9-10-301, the daily NOx emissions limit shall be reduced by the amount of reductions required. NOx ERC generated in accordance with Regulation 2, Rule 2 may be surrendered on a one-time basis at a 1.15 to 1 ratio to offset all or part of the NOx emissions reductions required, and the daily NOx emissions limit will be adjusted accordingly.

308.2 A person operating under a daily NOx limit shall determine compliance with that limit on a daily basis.

308.3 For any device for which baseline NOx emissions have been permanently reduced, a permit application may be submitted to modify the baseline daily NOx emissions for that device.

308.4 The daily NOx limit shall be reduced when a device is no longer subject to this rule. The amount of reduction shall be equal to the baseline NOx daily emissions for that device.

9-10-400 ADMINISTRATIVE REQUIREMENTS

9-10-401 Deleted December 15, 2010

9-10-402 Deleted December 15, 2010

9-10-403 Deleted December 15, 2010

9-10-404 Final Control and Monitoring Plan: A person subject to Section 9-10-307 shall comply with the following increments of progress:

404.1 No later than twenty-four (24) months prior to the effective date of Section 9-10-307, submit to the APCO a control plan detailing the proposed measures, if any, to be taken in order to meet the requirements of Section 9-10-307, as well as proposed measures, if any, to be taken to continue to meet the requirements of Section 9-10-301.

404.2 No later than eighteen (18) months prior to the effective date of Section 9-10-307, submit applications for all Authorities to Construct required for compliance with Section 9-10-307.

404.3 No later than 30 days after the effective date of Section 9-10-307, perform testing for nitrogen oxide and carbon monoxide emissions at each CO boiler subject to Section 9-10-307 at the rated heat input or as near thereto as practicable. This requirement may be satisfied by monitoring nitrogen oxide and carbon monoxide emissions with a continuous emission monitoring system (CEMS).

(Adopted December 15, 2010)

9-10-405 Application for an Alternate NOx Compliance Plan: An application for an Alternate NOx Compliance Plan may be submitted by a person who operates a refinery where a boiler, steam generator or process heater is subject to Section 9-10-301. The Alternate NOx Compliance Plan shall apply to all boilers, steam generators and process heaters that are subject to the NOx limit in Section 9-10-301 at the time the Alternate NOx Compliance Plan is approved, and only to these boilers, steam generators and process heaters. The application shall be submitted and processed in accordance with Regulation 2, Rule 1. The fees for the application shall be as specified in Regulation 3 for an alternate compliance plan. The application shall include the following information, which shall be included in the Permit to Operate for the boiler, steam generator or process heater:

405.1 The proposed effective date of the Alternate NOx Compliance Plan.

405.2 A list of the boilers, steam generators and process heaters that will be subject to a daily NOx limit, as specified in Section 9-10-308, and for each:

2.1 The baseline NOx daily emissions determined in accordance with Section 9-10-308.1, including the data used to establish the baseline NOx daily emissions and the source(s) of the data. To the extent possible, the baseline NOx daily emissions shall be based on CEMS data.

2.2 One or two substitute emission factors to be used in the absence of CEMS data and determined from representative source test data measured in accordance with District Manual of Procedures, Volume IV, ST-13A (nitrogen oxides) and ST-14 (oxygen), including the source test report.

2.3 The amount of the required reductions to the daily NOx limit described in Sections 9-10-308.1.1 and 308.1.2 and any proposed mitigation to these reductions.

405.3 The amount of any ERC use allowed by Sections 9-10-308.1.1 and 308.1.2 shall be calculated as follows: (average difference between actual operating emissions, in pounds NOx/day, and the pounds NOx emissions/day that would meet the 0.033 pounds NOx/million BTU NOx limit in Section 9-10-301 for the 10 days used to develop the baseline NOx emissions)(365 days/year)(1.15) = NOx ERC surrendered. Any ERC use shall be surrendered before the application for the Alternate NOx Compliance Plan is considered complete. If an Authority to Construct that meets the conditions described in Section 9-10-308.1.2 is cancelled, any ERC surrendered shall be returned to the applicant.

9-10-406 Determination of Compliance: Compliance with the daily limit in Section 9-10-301 or 308 shall be determined by CEMS data and, for those boilers, steam generators and process heaters subject to parametric monitoring, the emission factor established according to Section 9-10-502.1.2 and the heat input rate as measured for each boiler, steam generator and process heater.

9-10-407 Boiler, Steam Generator and Process Heater Status Report: Any person who operates a boiler, steam generator or process heater that is subject to Section 9-10-301 or 308 shall, no later than [6 months after adoption], submit information on the make, model and emission rates for all burners in each boiler, steam generator or process heater. Information shall be submitted in a format as specified by the APCO. The information shall be updated no later than 30 days after any non-identical burner change or replacement.

9-10-500 MONITORING AND RECORDS

9-10-501 Deleted December 15, 2010

9-10-502 Monitoring: A person subject to Sections 9-10-301, 303, 304, 305, ~~or~~ 307 or 308 shall maintain in good working order, and operate the following equipment:

502.1 An in-stack nitrogen oxide (NOx), carbon monoxide (CO), and oxygen (O_2) continuous emission monitoring system (CEMS), or equivalent parametric monitoring system as specified in a ~~Title V~~ Permit to Operate. The CEMS shall~~must~~ meet the requirements of the District Manual of Procedures, Volume V, Continuous Emission Monitoring, Policy and Procedures.

1.1 No later than [6 months after adoption], a person who operates boilers, steam generators or process heaters that are subject to Section 9-10-301 or 308 shall submit a monitoring plan to the APCO for the installation of NOx CEMS on these boilers, steam generators or process heaters such that no less than 95% of the NOx emissions, by weight, subject to either 9-10-301 or 308 is monitored with a NOx CEMS. The monitoring plan shall consider the actual NOx emission contribution from each boiler, steam generator or process heater subject to Section 9-10-301 or 308 during the most recent calendar year for which complete data are available at the time of the submittal of the monitoring plan. No later than [12 months after adoption], the APCO shall approve each submitted monitoring plan, or else shall specify additional NOx CEMS that must be installed, and notify the affected refinery. The date of plan approval or notification shall serve as the "date of notification" specified in the District Manual of Procedures (MOP), Volume V, Continuous Emission Monitoring, Policy and Procedures. The installation of CEMS shall then be in accordance with the schedule and other provisions of MOP, Volume V, except that the completion of installation in Section 4.3 of Volume V shall be within 12 months of submittal of the Intent to Purchase.

1.2 Any person who operates a boiler, steam generator or process heater that uses a parametric monitoring system to monitor compliance with Section 9-10-301 or 308 shall estimate the NOx emission contribution of the boiler, steam generator or process heater based on one or two NOx emission factors (expressed as lb NOx / MM BTU) and on actual fuel input for all operating conditions, except as allowed by Section 9-10-301.3, 301.4 or 301.5. The emission factor shall be based on one or more District-approved source tests and included in a Permit to Operate. The operator shall conduct periodic monitoring of boilers, steam generators and process heaters that use a parametric monitoring system as follows:

2.1 Boilers, steam generators and process heaters rated less than 25 MM BTU/hr shall have one source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months. A boiler, steam generator or process heater that is out of service need not be placed into service for the purposes of conducting a source test. Notwithstanding the time limits specified above, a source test for a boiler, steam generator or process heater that is out of service may be delayed until it returns to service.

2.2 Boilers, steam generators and process heaters rated 25 MM BTU/hr or more shall have two source tests per consecutive 12 month period. The time interval between source tests shall be no less than 5 months and no more than 8 months. Notwithstanding the time limits specified above, a source test for a boiler, steam generator or process heater that is out of service may be delayed until it returns to service.

If a source test measures an emission factor higher than the emission factor in the Permit to Operate, then the higher emission factor shall become the new emission factor for determining compliance with Section 9-10-301 and 308. An operator may re-test

at operating conditions substantially similar to those during the original test and appeal the change in emission factor to the APCO within 60 days. An operator may submit source test data with a permit application to establish a lower emission factor for a device that has been altered in a way that reduces the emission rate. The APCO may require that a source test be performed at a specific operating condition if the APCO determines that such a condition is a representative operating condition that has not been previously tested. Source test results shall be submitted to the APCO within 60 days of any test.

502.2 A fuel-flow meter in each fuel line for each boiler, steam generator and process heater, including each CO boiler.

(Amended 7/17/02; 12/15/10)

9-10-503 Modified Maximum Heat Input: Any unit that has been physically modified such that its maximum heat input is different than the heat input specified on the nameplate shall demonstrate to the APCO the maximum heat input while operating the source at maximum capacity.

9-10-504 Records: The owner/operator of a source subject to this rule shall keep the following records, in a form suitable for inspection for a period of at least five (5) years. Such records shall be retained for a minimum of sixty (60) months from date of entry and made available to the APCO upon request. These records shall include, but are not limited to the following:

504.1 For all sources subject to the requirements of Sections 9-10-301, 303, 304, 305, 307, 308 or 404.3:

1.1 The continuous emission monitoring system (CEMS) measurements for NOx and CO (ppmv corrected to 3% oxygen) and O_2 (percent by volume on a dry basis) or equivalent parametric monitoring system parameters for ~~NOx, CO, and O_2 in ppmv~~; and hourly (lb/hour) and daily (lb/day) NOx emissions for each source. Measurements shall be submitted in a digital format that can be readily imported into standard database tools as specified by the APCO. The APCO shall provide a reasonable amount of time to implement any required changes in data format.

1.2 The type, heat input (BTU/hr and BTU/day), and higher heating value of each fuel burned, and the injection rate for any reactant chemicals used by the emission control system(s) on a daily basis.

1.3 The date, time, and duration of any startup, shutdown or malfunction in the operation of any unit, emission control equipment or emission monitoring equipment.

1.4 The results of performance testing, evaluations, calibrations, checks, adjustments, and maintenance of any CEMS required by this rule.

1.5 A list of all sources subject to the NOx refinery-wide emission rate limits in Sections 9-10-301 and 303.

1.6 Total NOx emissions and total heat input for all sources listed in Section 9-10-504.1.5, on a daily basis.

1.7 The date, time and duration of all start-up and shutdown periods.

1.8 The results of source tests required by Section 9-10-404.3.

504.2 For all sources subject to Section 9-10-306.2, records of annual tune-ups.

(Amended 7/17/02; 12/15/10)

9-10-505 Reporting Requirements: A person subject to the requirements of Sections 9-10-301, 303, 304, 305, 306, ~~or~~ 307 or 308 shall meet the following reporting requirements:

505.1 Report to the APCO any violation of Section 9-10-301, 303, 304, 305, 306, ~~or~~ 307 or 308 in accordance with the requirements of Regulation 1-522 for continuous emission monitoring systems (CEMS) and Regulation 1-523 for parametric monitoring systems.

505.2 Submit a written report for each calendar quarter to the APCO. The report shall be due on the 30th day following the end of the calendar quarter and shall include:

2.1 A summary of the data obtained from the CEMS or equivalent parametric monitoring system and the fuel meters installed pursuant to Section 9-10-502; and

2.2 The date, time, duration, and magnitude of emissions in excess of the appropriate standards; the nature and cause of the excess (if known); the corrective actions taken; and the preventive measure adopted.

(Amended 7/17/02; 12/15/10)

505.3 A person subject to the requirements of Section 9-10-308 shall submit to the APCO a permit application to amend the Alternate NOx Compliance Plan whenever Section 9-10-308.~~3~~4 is triggered. The application shall be submitted within 30 days of the event that triggers Section 9-10-308.3.

9-10-600 MANUAL OF PROCEDURES

9-10-601 Determination of Nitrogen Oxides: Compliance with the nitrogen oxide emission requirements of Sections 9-10-301, 303, 304, ~~and~~ 307 and 308 shall be determined by a continuous emission monitoring system (CEMS) that meets the requirements of Regulation 1-522, or by an equivalent parametric monitoring system that is authorized in a ~~Title V~~ Permit to Operate and that meets the requirements of Regulation 1-523. CEMS operation and compliance with Section 9-10-404.3 shall be verified by source test as set forth in the District Manual of Procedures, Volume IV, ST-13A (nitrogen oxides) and ST-14 (oxygen).

(Amended 7/17/02; 12/15/10)

9-10-602 Determination of Carbon Monoxide and Stack-Gas Oxygen: Compliance with the carbon monoxide emission requirements of Section 9-10-305 shall be determined by a continuous emission monitoring system (CEMS) that meets the requirements of Regulation 1-522, or by an equivalent parametric monitoring system that is authorized in a ~~Title V~~ Permit to Operate and that meets the requirements of Regulation 1-523. CEMS operation and compliance with Section 9-10-404.3 shall be verified by source test as set forth in the District Manual of Procedures, Volume IV, ST-6 (carbon monoxide) and ST-14 (oxygen).

(Amended December 15, 2010)

9-10-603 Compliance Determination: All emission determinations shall be made in the as-found operating condition, except during periods of start-up or shutdown.

(Amended December 15, 2010)

9-10-604 Determination of Higher Heating Value: If certification of the higher heating value is not provided by the third-party fuel supplier, it shall be determined by one of the following test methods: (1) ASTM D2015-85 for solid fuels; (2) ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or (3) ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels.

9-10-605 Tune-Up Procedures: The tuning procedure required by Section 9-10-306.2 shall be performed in accordance with the procedure set forth in the District Manual of Procedures, Volume I, Chapter 5.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

STAFF REPORT

PROPOSED AMENDMENTS TO REGULATION 9, RULE 10:

NITROGEN OXIDES AND CARBON MONOXIDE FROM BOILERS, STEAM GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES

SEPTEMBER 2013

JULIAN ELLIOT
SENIOR AIR QUALITY ENGINEER

Contents

1.0 Executive Summary

The Bay Area Air Quality Management District ("BAAQMD" or the "District") is proposing amendments to Regulation 9, Rule 10: *Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries* ("Regulation 9-10" or "the regulation") that will: (1) create a new, voluntary alternative nitrogen oxides (NOx) standard for pre-1994 heaters[1]; (2) increase continuous emissions monitoring systems (CEMS) coverage on pre-1994 heaters; and (3) establish a new reporting requirement. The purpose of the proposed amendments is to: (1) provide operational flexibility to refinery operators and encourage energy efficiency improvements, and thus, lower greenhouse gas emissions, while assuring that the NOx emission reductions achieved under the current rule continue; (2) improve the enforceability of the rule; and (3) gather information from which future emission reductions can be considered.

Pre-1994 heaters are currently subject to a daily, average *emission rate* limit of 0.033 pounds NOx per million BTU of heat input (0.033 lb NOx/MM BTU). This is a limit on the amount of NOx emitted relative to the amount of fuel consumed. A refinery is not bound to limit its total mass emissions to any particular amount - it will be in compliance as long as the ratio of NOx to fuel usage, averaged among all pre-1994 heaters, remains at or below 0.033 pounds NOx/MM BTU per day. By contrast, the proposed alternative NOx standard for pre-1994 heaters is a daily, total *mass emission* limit. This is a limit on the total amount of NOx emitted. The purpose of the alternative is to provide the refineries with a lower-cost compliance option while limiting pre-1994 heaters to their historic NOx mass emission levels. Under the current rule, a refinery that replaces and/or removes from service a pre-1994 heater that has a lower emission rate than its pre-1994 counterparts may be required to add controls on the remaining heaters to ensure that the remaining heaters as a group continue to comply with the 0.033 lb NOx/MM BTU daily, average emission rate limit. Some refineries have characterized this requirement as a "disincentive" to modernization since it increases the cost of heater replacement projects when the above circumstances are met. A refinery that opts for a mass limit under the proposed amendments would not be required to add controls on the remaining heaters in this situation. In return, however, that refinery would lose the ability to increase total NOx emissions beyond historical levels even if its fuel usage increases in the future.

The California Global Warming Solutions Act of 2006 (AB 32) requires major greenhouse gas-emitting facilities, like refineries, to significantly reduce greenhouse gas (GHG) emissions by 2020. It is expected that compliance with the requirements of AB 32 and subsequent regulations will ultimately require modification and replacement of pre-1994 heaters (the least energy-efficient heaters in the refineries), and result in significant further reductions of NOx and CO emissions, in addition to GHG emission reductions. As mentioned above, the proposed amendments would allow refineries to perform these modifications and replacements without incurring the additional cost of making further NOx emission reductions on remaining pre-1994 heaters. The proposal would also allow certain

[1] For simplicity, the term "pre-1994 heater" will be used in this report to refer to the refinery boilers, steam generators and process heaters, not including CO boilers, that were operating prior to January 5, 1994, and that are currently subject to the 0.033 lb NOx/MM BTU emission rate limit in current Regulation 9-10. The term does not include any heaters that are exempt or were modified since 1994 and thus are not currently subject to the emission rate limit.

refineries to use emission reduction credits (ERC) to establish the mass emission limit, which would be an expansion of the use of ERC under District regulations.

Heaters subject to Regulation 9-10 must monitor emissions to allow verification of compliance with the daily, average emission rate limit. Monitoring may be performed with a CEMS, which measures the NOx emission rate directly. Alternatively, monitoring may be performed by measuring key heater operating parameters (firing rate and exhaust oxygen level) and estimating the NOx emission rate based on the results of source tests conducted at similar operating parameters. This is called "parametric monitoring". The proposed amendments would require that each refinery operate enough CEMS on pre-1994 heaters such that at least 95% of the NOx emissions at pre-1994 heaters are monitored with a CEMS. This new criteria would require additional CEMS to be installed at four of the five Bay Area refineries, would make the level of CEMS-coverage more uniform across the refineries, and would improve enforceability of the rule. Because all significant NOx emission contributors at each refinery (collectively contributing 95% or more of NOx emissions from pre-1994 heaters) would be covered by CEMs under the proposed amendments, staff also proposes simplifying the monitoring requirements for the remaining heaters without CEMS.

Finally, the proposed amendments include a new heater status report to be submitted by each refinery with current burner information. The report would need to be updated whenever burners are changed or replaced. The purpose of this report is to provide data necessary for the District to estimate potential further emission reductions at pre-1994 heaters and the cost of these reductions.

The proposed alternative emission standard is voluntary and therefore may not produce any particular level of additional emission reduction. However, the proposed amendments contain provisions to ensure that if a refinery selects the alternative standard, equivalent emission reductions to those that would have been required by the current provisions of Regulation 9-10 will occur for any foreseeable project. Also, since the proposed alternative standard is voluntary, it imposes no mandatory additional costs on refinery operators. If a refinery operator elects to use the alternative standard, it presumably will do so because the overall cost of compliance with the alternative standard will be lower than with the existing standard.

The proposed changes to monitoring requirements would require approximately 23 new CEMS to be installed at the five Bay Area refineries and would improve the enforceability of the rule although it would not directly result in emissions reductions. Each CEMS may cost from $100,000 up to $500,000 to be installed and commissioned, and may have annual operating and maintenance costs of as much as $25,000. The proposed reporting requirement is considered to have a negligible cost because the data should be readily known and available to refinery operators.

Discussion of an alternative standard for Regulation 9-10 began prior to the Board's adoption of the 2010 amendments. At that Board hearing on December 15, 2010, staff was directed to work with refineries to explore alternative standards. Staff considered many options to provide flexibility and maintain achieved emissions reductions, and, on November 14, 2012, provided notice of draft amendments. A public workshop was conducted on December 4, 2012 in Martinez, CA. Staff received comments, made appropriate revisions to the draft and, on May 29, 2013, published a second

draft and requested further comments. Staff made further revisions based on these latest comments. A socioeconomic analysis conducted by Applied Development Economics of Walnut Creek, CA has concluded that the costs associated with the proposed amendments would not have a significant economic impact on the affected industry, and a California Environmental Quality Act (CEQA) environmental analysis conducted by Environmental Audit of Placentia, CA concluded that the proposed amendments would not have significant adverse environmental impacts. Staff has reviewed and accepted these analyses. A CEQA Negative Declaration is proposed.

2.0 Background

2.1 Current Regulation 9-10 Emission Standards

Nitrogen Oxides (NOx), consisting of nitric oxide and nitrogen dioxide, are a by-product of combustion processes, be they automobile engines, water heaters or industrial boilers. NOx are the result of a high temperature reaction between oxygen, necessary for the combustion of fuel, and nitrogen in the air. NOx reacts with organic compounds in the presence of sunlight to produce photochemical smog, or ozone. NOx also contributes to the formation of fine particulate matter ($PM_{2.5}$). Carbon monoxide (CO) is a poisonous gas that is the product of incomplete combustion. There are federal and California ambient air quality standards for ozone, $PM_{2.5}$ and CO. The District is not in attainment of the federal or State standards for ozone and $PM_{2.5}$, although the District does attain both federal and State standards for CO. Regulation 9-10 sets emission limits for NOx and CO from boilers, steam generators and process heaters at petroleum refineries in the San Francisco Bay Area. Petroleum refineries are complex facilities that refine crude oil into gasoline and other salable products. Numerous processes are involved in the refining process, which seeks to maximize the yield of high-value products like gasoline. Most of these processes involve heat, and most of the heat is supplied by combusting refinery fuel gas, a by-product of the refining process. There are approximately 180 boilers, steam generators and process heaters that are subject to Regulation 9, Rule 10. Regulation 9-10 was last amended in 2010 to add new CO boiler emission limits (effective 2015) that are shown in Table 1. CO boilers are a class of large heaters that produce steam and that use as fuel, at least in part, a waste gas rich in CO. CO boilers combust and eliminate much of the CO that would otherwise be emitted from the refinery.

Regulation 9-10 includes District “best available retrofit control technology” (BARCT) NOx limits and federal “reasonably achievable control technology” (RACT) NOx limits for pre-1994 heaters, and separate BARCT and RACT limits for CO boilers. BARCT limits satisfy California requirements for ozone non-attainment areas, while RACT standards satisfy less-stringent federal requirements for ozone non-attainment areas. Table 1 summarizes the current Regulation 9-10 emission limits.

Table 1 – Current Regulation 9-10 NOx Emission Limits*		
	Federal "RACT" NOx Limit	**BAAQMD "BARCT" NOx Limit**
Pre-1994 Heaters (except CO boilers)	Refinery-wide, daily average: 0.20 lb NOx / MM BTU input	Refinery-wide, daily average: 0.033 lb NOx / MM BTU input
Pre-1994 CO Boilers	**Current Limit:** Daily average, each device: 300 ppmv	**Current Limit:** Daily average, each device: 150 ppmv
		Effective 1/1/2015: Partial-burn boilers: 125 ppmv daily average; 85 ppmv annual average Non-partial-burn boilers: 150 ppmv daily average; 45 ppmv annual average
Post-1994 Heaters (including CO boilers)	Not subject to Reg. 9-10; subject to more stringent BAAQMD "BACT" limits under Regulation 2, Rule 2: New Source Review.	

** All "parts per million by volume" (ppmv) concentration limits are standardized to a 3% exhaust oxygen concentration.*

Regulation 9-10 is unusual because most of the heaters subject to the rule do not have source-specific emission limits, but instead are subject to the refinery-wide daily, average NOx limits. The rule was structured this way in order to minimize the cost of compliance with the required NOx emission reductions, and to allow operational flexibility on a day to day basis as heater demand changes.

Regulation 9-10 applies an average, daily NOx emission rate limit of 0.033 lb NOx/MM BTU to pre-1994 heaters that are not CO boilers. Pre-1994 CO boilers are subject to boiler-specific (not average), daily NOx exhaust concentration limits expressed in units of "parts per million by volume" (ppmv). The specific value of the limit depends on the design of the CO boiler. The proposed amendments to Regulation 9-10 described in this report only affect the average, daily NOx limit of 0.033 lb NOx/MM BTU that applies to pre-1994 heaters that are not CO boilers.

2.2 Emission Reductions Through 2002

The NOx limits for pre-1994 heaters in Regulation 9-10 were adopted in 1994 and required that refinery operators retrofit many of these devices with a variety of NOx controls by 2002 to reduce the average, daily NOx emission rate to no more than 0.033 lb NOx/MM BTU. (Most pre-1994 heaters were in service before the District created its new source review permit program that requires "best available control technology" ("BACT") on new sources, and therefore were not subject to any regulatory or permit condition emission limits until Regulation 9-10 was adopted.) As a result of these retrofits, Regulation 9-10 achieved a permanent NOx reduction of about 26 ton/day, which represents about a 65% emission reduction from refinery heaters from 1994 through 2002. This is the largest NOx reduction achieved from any single District rule. Since 2002, refinery heater NOx emissions have trended lower, although a sustained increase in refinery production could result in a reversal of this

trend. This is because Regulation 9-10 does not limit pre-1994 NOx emissions on a mass basis; NOx emissions are limited only in proportion to the fuel that these heaters use, i.e. an emission rate limit.

Regulation 9-10 never applied to newer refinery heaters that have been permitted by the District since 1994 ("post-1994" heaters) because these devices must comply with the BACT permit requirements under Regulation 2-2: New Source Review for new or modified heaters. BACT requirements have become stricter over time to reflect the improvement of emission-control technology. Compared to the Regulation 9-10 average limit of 0.033 lb NOx/MM BTU, which is equivalent to about 28 ppmv NOx, the current BACT requirement for a typical refinery heater would be a NOx limit of 5 ppmv (*Reference 1*) achieved with a selective catalytic reduction (SCR) system. Thus, replacing a pre-1994 heater with a new or modified heater that would be required to meet stringent BACT limits may result in a net reduction of 50% or more in the NOx emission rate. That does not necessarily mean that the replacement would also yield a reduction of 50% or more in NOx mass emissions, because the refinery operator may replace the pre-1994 heater with a larger device. However, there would likely be a net reduction in NOx mass emissions, even if the new heater is larger and would burn more fuel. This is because, in addition to being subject to BACT limits on emissions, new heaters at refineries must have their new permitted emissions fully offset by emission reductions elsewhere as required by Regulation 2, Rule 2. If the offsets are in the form of emission reduction credits (ERC), then they must be provided at a 1.15:1 ratio – meaning that the new permitted emissions must be over-offset by 15%. An ERC is a credit, stored in an emissions bank, of nitrogen oxides or organic compounds. Regulation 2, Rule 2 prevents a net increase in emissions in the Bay Area, even if one facility is able to increase emissions. ERC may be banked and traded between facilities, but are generated only from source shutdowns or other voluntary, permanent emissions reductions not required by regulations.

Further, ERC are adjusted at the time they are generated, which means that the amount of ERC granted to the facility as the result of making a permanent emission reduction is lowered to the amount that would have been emitted if the source of the emissions had emission controls that met current reasonably available control technology (RACT) requirements for similar sources. Thus, an ERC used to offset a new source may represent even greater emissions actually reduced, thus increasing further the net environmental benefit of a new heater replacement.

As an example, if a heater that is uncontrolled and that emits 100 tons NOx/year is removed from service at a refinery and replaced with a heater equipped with BACT that will emit 50 tons NOx/year, the 100 tons NOx/year emissions from the removed heater might be adjusted to a RACT level of 40 tons NOx/year ERC. Because the difference is 10 tons NOx/year, NOx ERC in the amount of 11.5 tons will be required to offset the new source (10 x 1.15 as per Reg. 2-2-302). So the net NOx emissions are reduced by 50 tons/year, plus 11.5 tons of ERC are retired - a significant net benefit to the environment.

2.2.1 Inter-Changeable Emission Reduction Credits (IERC)

Although all refinery operators implemented NOx retrofits on pre-1994 heaters that are not CO boilers in order to comply with the 0.033 lb NOx/MM BTU limit by 2002, some refinery operators that had CO boilers at their refineries also added or improved NOx controls on these CO boilers in order to

comply indirectly with the 0.033 lb NOx/MM BTU limit. This is possible because BAAQMD Regulation 2-9 ("Interchangeable Emission Reduction Credits") and California law allow the operator of a permitted source of NOx that "over-complies" with all applicable NOx limits to apply credits from that over-compliance to different NOx sources at the same facility. The generation, banking and use of ERC and IERC are among the most complex aspects of air pollution law. Table 2, below, provides a very simplified explanation of the differences between these credits.

Table 2 – Emission Reduction Credits (ERC) and Interchangeable Emission Reduction Credits (IERC)

	ERC	IERC
Pollutants allowed	NOx, organic compounds, sulfur dioxides, particulate matter, CO	Only NOx
Sources	Sources shut down, permanent reductions below regulatory limits.	Permanent reductions below regulatory limits.
Uses	Offset emissions from new sources. May be sold or traded between facilities, or translated into IERC.	Compliance with District NOx rules.
Lifespan	Permanent	5 years
Restrictions	Can only be used to offset emissions from new sources.	Cannot be used for compliance with federal rules, District rules submitted into the SIP* or District BACT determinations for new sources. Must be used within the generating facility
Surcharge for use	1:1.15 (15%) for non-attainment pollutants	1:1.10 (10%)
Reference	Regulation 2, Rule 2: New Source Review	Regulation 2, Rule 9: Interchangeable Emission Reduction Credits

** State Implementation Plan. The EPA requires ozone non-attainment areas to submit District rules into the California SIP, which then become federally enforceable. Because of more stringent California ambient air quality standards, the District is also required to implement more stringent BARCT standards. IERC can be used to comply with these BARCT standards.*

As an example, if a refinery operator reduced emissions at a stationary gas turbine in a refinery to below the NOx emission limit for turbines (Regulation 9-9) the operator could apply credits from that over-compliance to pre-1994 heaters that that are subject to the daily, average NOx limit of 0.033 lb NOx/MM BTU. Regulation 2-9 requires that when the IERC process is used, the over-compliance at one source be discounted by 10% when it is applied to the other source.

2.3 Emission Reductions After 2002

After the NOx reductions associated with the 1994 version of Regulation 9-10 were realized by 2002, each refinery has been required to maintain compliance with the average NOx emission rate limit of 0.033 lb NOx/MM BTU for pre-1994 heaters that are not CO boilers. Over time, as heaters are retired or substantially modified, the number of heaters subject to Regulation 9-10 is reduced. As that happens, the emissions from the remaining ones still cannot exceed the 0.033 lb NOx/MM BTU

standard. The rule has no explicit requirement that additional emission reductions occur after 2002, but there are two situations where the current rule would require a refinery to add additional NOx controls to pre-1994 heaters in order to maintain compliance.

The first situation results when all of the following conditions are present:

- A heater is removed from the population of pre-1994 heaters that is subject to the average NOx emission rate limit of 0.033 lb NOx/MM BTU - because it is retired, or because it is replaced (the replacement heater would be subject to BACT NOx limits and emission offset requirements, but would not be subject to Regulation 9-10); and
- The removed heater operates below the 0.033 lb NOx/MM BTU average; and
- The removed heater is a large enough contributor to the overall average that its removal from the pre-1994 heater population results in the average NOx emission rate of the remaining heaters to exceed the 0.033 lb NOx/MM BTU standard.

In this case, one or more of the remaining pre-1994 heaters would be required to be retrofitted with additional NOx controls to bring the overall average down to no higher than 0.033 lb NOx/MM BTU.

The second situation that would require a refinery operator to make additional, permanent emission reductions to pre-1994 heaters after 2002 occurs when a refinery operator has complied indirectly with this limit by using IERC, as described above, and the source of the IERC is lost – either because the IERC-generating source is removed from service, or because it no longer generates enough IERC (because the source emission rate increases, or the source becomes subject to stricter NOx limits). In this situation, similar to the first, additional NOx emission reductions on pre-1994 heaters would be required to reduce emissions to a level no greater than 0.033 lb NOx/MM BTU.

3.0 Proposed Rule Amendments

3.1 Proposed Alternate Emission Standard

Each Bay Area refinery complies with the current emission standard for pre-1994 heaters in Section 9-10-301 of Regulation 9-10 by applying a variety of NOx control technologies to refinery heaters in a combination that allows compliance with the daily, average emission rate limit. These technologies range from basic, low-NOx burners that have NOx emission rates around 30 ppmv (at 3% oxygen), to more-advanced burners that achieve lower NOx emission rates through staged combustion techniques and other NOx-minimization techniques, including add-on controls such as selective catalytic reduction and non-selective catalytic reduction, a technique in which ammonia is added to a NOx-rich gas stream to reduce the NOx to nitrogen (N_2) and water.

The new, voluntary alternate emission standard would be a daily NOx mass limit for pre-1994 heaters subject to Regulation 9-10. The alternative standard applies to the same population of pre-1994 heaters that are currently subject to Section 9-10-301. While Section 9-10-301 includes a *daily average emission rate* limit expressed in units of "pounds of NOx per million BTU of heat input", the alternative limit is a *daily total mass* limit expressed in units of "pounds of NOx".

The value of the mass limit is not set in the rule, since the value will be different for each refinery that elects to use the alternative. Instead, the proposed amendment includes a procedure for establishing the mass limit for each refinery. Under this procedure, each pre-1994 heater would have baseline NOx emissions equal to the average of its NOx emissions on any ten days during the three-year period immediately preceding the date of the refinery's application to select the alternative standard. The intent is to allow each refinery to select ten days that represent a full level of production provided, however, that the refinery must have been in compliance with the Section 9-10-301 NOx limit on all of those ten days. The APCO would have discretion to allow the baseline period to be extended farther back into the past if the refinery can demonstrate that they have not been at full production. The value of the mass limit would be the sum of the baseline emissions for all the pre-1994 heaters at each refinery that elects to use the alternative standard. Like with the current rule, the proposed amendments would not impose source-specific emissions limits on pre-1994 heaters. Rather, under the mass limit alternative, a refinery would need to comply with a daily, total mass limit. The refinery would therefore retain operational flexibility under either limit.

After the alternative limit is set, if a pre-1994 heater is modified or removed from service, such that it is no longer subject to Regulation 9-10, the value of the limit would be reduced by the amount that heater originally contributed to the alternative limit. Unlike under current Section 9-10-301, removal or modification of a heater that is lower emitting than its pre-1994 counterparts would not trigger a requirement to add additional NOx controls on the remaining heaters. This creates an incentive to modernize or replace heaters with more efficient units, enabling refiners to more easily move towards compliance with AB 32 requirements, but preserves the emissions reductions achieved by Regulation 9-10.

If a refinery operator had been relying on IERC to comply with Regulation 9-10 during the baseline period, the heaters had been emitting at a higher rate than the *daily average emission rate* standard of 0.033 lb NOx/MM BTU. The alternative mass emission limit would be set to be equivalent to the 0.033 lb NOx/MM BTU limit. A refinery with a continuing source of IERC could continue to apply IERC to comply with the new alternative limit, just as it had with the original limit. The proposed amendments also would allow the refinery to apply ERC at a 1.15:1 ratio to set the alternative mass emission limit, but only to set a NOx mass emission limit no higher than the actual emissions level that was offset by the use of IERC (to achieve compliance) during the baseline period. The equivalence of the new alternative limit to the original limit is further discussed in Section 3.1.1.

Also, if a refinery operator had submitted a permit application for a project that would have required that it achieve additional NOx emission reductions on pre-1994 heaters at the time the alternate standard is applied for, then the alternative mass emission limit would be reduced by the amount of required reductions if the project is constructed. Again, this adjustment is necessary to make the new alternative limit equivalent to the original *daily average emission rate*. And again, the refinery operator could apply ERC at a 1.15:1 ratio to set the alternative NOx mass emission limit, but only to a level no higher than the actual NOx emissions level during the baseline period.

In both cases above, the described use of ERC to establish the value of the alternative mass limit would be an expansion of the use of ERC under District regulations, which currently allow ERC to be used

for offsets for New Source Review (NSR) permitting purposes or to be exchanged for (time-limited) IERC. Importantly, however, the use of ERC in this way does not allow refinery emissions to increase above historical levels; it only allows a mass emission limit to be set that is no higher than actual historical emissions.

A refinery operating under the alternative NOx mass limit would be required to install additional NOx controls on pre-1994 heaters if it were to increase its fuel usage to the point that the NOx mass emissions limit was being exceeded. As mentioned previously, under the existing standard in Reg. 9-10, NOx mass emission increases are not limited as long as they do not exceed the 0.033 lb NOx/MM BTU emission rate.

Appendix A includes three examples that illustrate: 1) how a refinery would establish the alternative NOx mass limit; 2) how the use of IERC or a proposed project that would increase the NOx emission rate would affect this limit; and 3) how the alternate limit could be complied with, including the use of ERC to adjust the limit.

3.1.1 Equivalence with Current Rule Requirements

As discussed in Section 2.3, compliance with the current daily, average *emission rate* limit was achieved at each Bay Area refinery in 2002 through permanent modifications of heaters, and the current rule does not explicitly require any additional emission reductions in the future. However, ongoing compliance with the current rule may require additional NOx controls to be installed on pre-1994 heaters as a result of projects that modify or remove other pre-1994 heaters, as explained in Section 2.3.1. Therefore, the proposed amendments may be considered to be equivalent to the current rule if emission reductions that would have been required by the current rule are not foregone by the alternative standard. The proposed amendments include requirements to ensure that if that there are any foreseeable projects at a refinery that would involve pre-1994 heaters and would require additional NOx controls under the current NOx limit, equivalent reductions are factored into the NOx mass emission limit for that refinery. To see this in action, we revisit the two situations described in Section 2.3 and alluded to in Section 3.1 where a refinery would be required, under the current rule, to add NOx controls to pre-1994 heaters after 2002.

For the first situation – a heater upgrade project for which a permit application had been submitted - the permit application has the information the District needs to determine whether the current rule would require NOx emission reductions (for example, if the project involves replacing or modifying a large, low-emitting pre-1994 heater and removal of the heater would increase the average emission rate of the remaining pre-1994 heaters to above 0.033 lb NOx/MM BTU). The proposed amendments would require an equal amount of reductions as a condition of selecting the alternative standard. The refinery operator would have the option of providing Emission Reduction Credits (ERC) to make up that difference.

The second situation – losing a source of IERC – is addressed by setting the new alternative NOx mass emission limit equal to the existing 0.033 lb NOx/MM BTU emission rate standard. The difference between actual emissions and the equivalent standard is the same difference that was offset with IERC to comply during the baseline period. Then, if the refinery operator continues to have a source of

IERC, they could simply apply IERC to the new limit as they did to the original limit. If the operator loses the ability to generate all or some of the IERC necessary to comply with the original limit, they would also lose the ability to use IERC to comply with the new alternative limit. Even though, as described in Section 3.1, the refinery operator could use ERC to make up for the loss of IERC rather than applying NOx controls to comply, the use of ERC removes these emissions from the market. In neither case would emissions from pre-1994 heaters increase.

3.2 Continuous Emissions Monitoring Systems (CEMS) Use

Regulation 9-10 requires the use of NOx and CO CEMS to monitor compliance with each of the emission limits in the rule, although it allows the use of an "equivalent parametric monitoring system" that is specified in a District permit. A CEMS is an automated, high-frequency analyzer that directly measures emissions while a parametric monitoring system monitors key system parameters, primarily firing rate and excess oxygen levels. Emissions are then calculated based on the emissions factors measured during source tests previously performed at the same or similar parameters. While a parametric monitoring system might over-estimate emissions to some extent, because it uses the highest emissions factor established by source test to estimate emissions during all periods of operation, a CEMS is considered the most accurate method of emissions monitoring. Most of the refineries have at least some heaters that use a parametric monitoring system rather than a CEMS, and for these heaters, the provisions of the parametric monitoring system are established in the permit conditions assigned to the heater.

The District has required the use of NOx and CO CEMS on any refinery heater that uses selective catalytic reduction (SCR) for NOx control, and also has required CEMS on any refinery heater rated 200 MM BTU/hr or more. This has resulted in a wide discrepancy in the coverage of NOx emissions with CEMS at different refineries. One refinery has less than half of its NOx emissions from pre-1994 heaters monitored by CEMS, while another has 98% coverage (based on 2011 NOx emission data).

Where a NOx CEMS is not required on a heater, the parametric monitoring system that is allowed for Regulation 9-10 requires that the heater operate with combinations of firing rates and exhaust oxygen levels where the NOx emission rates have been established by source testing. This allowed operating range is referred to as a "NOx Box". An example of a NOx Box is shown in Figure 1:

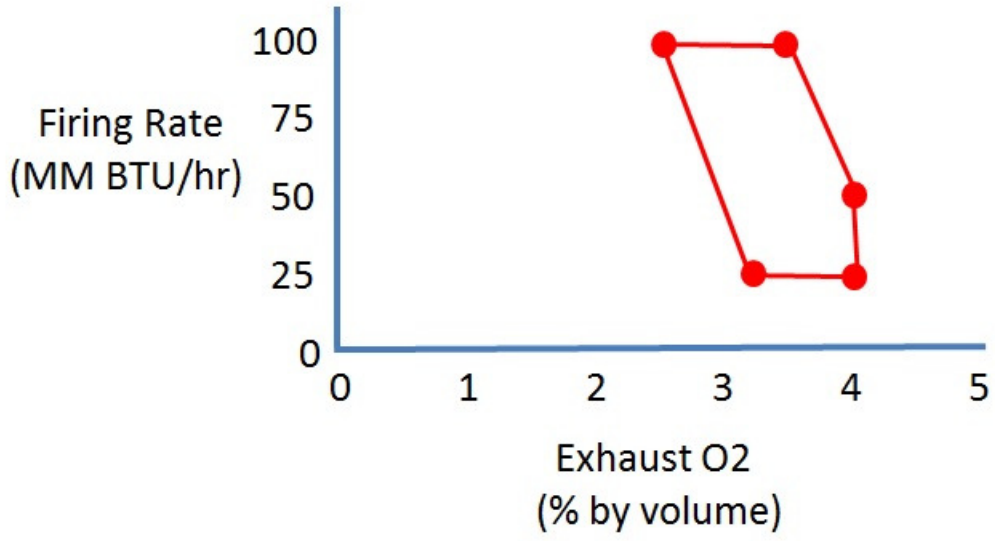


Figure 1 – Example of a NOx Box

NOx Boxes are graphed as either a 4 or 5-sided polygon, with the underlying data included in the operating permit for the associated heater. In this example, a heater with a maximum firing rate of 100 MM BTU/hr has been tested at five points to form a 5-sided polygon. Each of the five data points represents a combination of firing rate and exhaust oxygen content (the two factors that most influence NOx emissions rates at a heater), and each point has an associated NOx emission rate (not shown in the graphical representation of a NOx Box) that was measured during the source test that established the point. The highest emission rate for all of the tested points becomes the NOx emission factor for that heater. Once the NOx Box is established, the heater must operate within the parameters outlined by the box, except during startup and shutdown periods. In this way, operation within the NOx Box provides near certainty that the actual heater emission rate is no higher than the emission factor that is used to estimate emissions.

Under the current rule, when a heater operates for any period of time outside of the parameters that have an established NOx emission factor, the refinery is required to perform a source test at the same operating conditions (firing rate and oxygen level), and to perform an evaluation verifying that the excursion outside of the NOx Box did not result in a violation of an emission limit in Regulation 9-10. A refinery has up to eight months to conduct the source test and then up to 45 days to submit the test results. During that time, compliance status is unknown. In some cases a refinery operator was unable to replicate the conditions of the excursion to perform a source test, so was cited for failure to perform the test, even though noncompliance with the emission limit was never established.

In order to improve the enforceability of Regulation 9-10 through more accurate NOx monitoring, to reduce the administrative burden of regulating parametric monitoring systems, to make the use of NOx CEMS much more consistent among refineries, and to simplify NOx monitoring where appropriate, the District is proposing to make two changes to NOx monitoring requirements in Regulation 9-10.

First, the regulation would require that each refinery monitor at least 95% of the NOx emissions from pre-1994 heaters, on a mass basis, with a CEMS. This would result in almost all NOx emissions being monitored with the most accurate monitoring technology, and would allow refineries to use parametric monitoring on the heaters that did not cumulatively make a significant contribution to total pre-1994 heater NOx emissions.

Second, for the remaining heaters without a CEMS, periodic source tests would continue to be required at the same frequency, but heaters would not be limited to any particular combination of firing rates and exhaust oxygen level. Each non-CEMS-equipped heater would still have one or two conservative emission factors, which would be used to estimate the emission contribution of that heater. Periodic source tests would simply be used to verify a NOx emission rate no higher than the emission factor for each heater that did not have a CEMS. If a periodic source test showed a NOx emission rate that exceeded the emissions factor assigned to that heater, the higher measured emission rate would then be the basis for a new emission factor at that heater. Since the non-CEMS-equipped heaters would make up no more than 5% of the emissions, the likelihood that a violation of the refinery-wide average would be undetected would be minimal.

3.3 Pre-1994 Heater Status Report

The proposed amendments require a heater status report to be submitted by each refinery with current burner information. The report would be required to be updated whenever any burner is changed or replaced. The purpose of this report is to provide the District with data necessary to estimate potential further emission reductions at pre-1994 heaters and the cost of these reductions. Because the refineries constitute a large emission sector within the Bay Area, evaluation of potential further emission reductions will be an ongoing effort by District staff.

3.4 Emission Reductions and Benefits of the Proposed Amendments

The proposed alternative standard will allow refineries to modernize and replace old heaters with newer heaters without having to retrofit older heaters to reduce emissions to meet a rate-based standard. Newer heaters emit significantly less NOx and CO and are designed to be more energy efficient, emitting less greenhouse gases and allowing the refinery to progress towards AB32 goals. The pre-1994 heaters under the alternative NOx mass standard will not be able to increase emissions. The alternative emission standard is voluntary and therefore may not produce any quantifiable emissions reductions. However, the proposed amendments contain provisions to ensure that if a refinery selects the alternative standard, equivalent emission reductions to those that would have been required by the current provisions of Regulation 9-10 will still occur for any project for which an application has been submitted prior to the selection of the alternate standard. The proposed alternative standard allows the flexibility that the averaging provision of the existing standard allows. The proposed requirement to cover at least 95% of the NOx emissions from heaters with CEMS will provide an increased certainty about NOx emissions and improve the District's ability to enforce the rule. Finally, the proposed heater status report will allow the District to investigate whether future cost effective emissions reductions can be proposed.

4.0 Economic Impacts

4.1 Cost of Amendments

4.1.1 Alternative NOx Standard

The proposed alternative standard is voluntary, so it imposes no mandatory additional costs on refinery operators. If a refinery operator elects to use this alternative standard, it presumably will do so because it believes that the overall cost of compliance with the alternative standard will be lower than with the existing standard.

The current standard for pre-1994 heaters requires that they meet an average emission rate limit of 0.033 lb NOx/MM BTU. As described previously, modernization or replacement of a heater that has a lower-than-average emission rate could result in additional controls on one or more of the remaining pre-1994 heaters. In the development work that led up to the 2010 amendments, staff investigated a reduction in the emission standard through upgraded burners that produce less NOx, and through the addition of SCR systems or a variation of SCR that omits the catalytic reaction stage – "selective non-catalytic reduction" (SNCR). Each of these technologies has been implemented at the Bay Area refineries for NOx control. The cost of these NOx controls was discussed in the staff report for the 2010 amendments to Regulation 9-10 (*Reference 2*). The incremental cost effectiveness for pre-1994 heaters was estimated to be more than $30,000 per ton of NOx emissions reduced for the lowest cost heater with most heaters exceeding $100,000 per ton of NOx for burner upgrades and $200,000 per ton for SCR or SNCR installation. These costs were based on refinery engineering estimates that were reviewed and validated by District staff. The cost for many heaters is related to space or structural limitations that would require significant additional modifications to install upgraded burners, SCR or SNCR. Since the alternate standard is voluntary, a refinery would only be expected to select it if it expected compliance to cost less than under the current rule.

4.1.2 NOx Emissions Monitoring

The proposed amendments require the installation of CEMS on as many pre-1994 heaters as is necessary so that at least 95% of the NOx emissions from these heaters, on a mass basis, are monitored with CEMS. Based on the most current emission data for pre-1994 heaters, District staff estimates that 23 additional CEMS would be required, in order for each refinery to monitor at least 95% of the NOx emissions from pre-1994 heaters with CEMS. One Bay Area refinery is not expected to need any additional CEMS. Each of the other four Bay Area refineries would need to install between 2 and 10 additional CEMS.

The cost of CEMS varies significantly depending on installation-specific factors, such as the quality of enclosure required and the difficulty in providing electrical power and other utilities. Based on a review of recent total installation cost data for CEMS at Bay Area refineries, District staff estimates that each CEMS may cost from $100,000 to as much as $500,000 to install and put into service. Each CEMS is also expected to have about $25,000 per year of operating costs, which includes maintenance and required accuracy testing.

4.1.3 Pre-1994 Heater Status Report and Updates

The proposed requirement for refinery operators to provide and update heater burner information is considered to have a negligible cost because the required data should be readily known and available to refinery operators.

4.2 Cost Effectiveness

The cost effectiveness of a rule is the sum of required compliance costs divided by the expected emissions reduction.

For the alternate NOx standard, there is no required compliance cost because the alternate standard is voluntary. Also, the cost effectiveness calculation cannot be made because, while the intent of this proposal is to encourage emission reductions through the modernization of pre-1994 heaters, there is no quantified expected emission reduction.

For the additional CEMS required, the cost effectiveness calculation cannot be made because there is no expected emissions reduction. The current rule establishes CEMS as the default monitoring method for the rule and only allows parametric monitoring if it is equivalent. While the use of parametric monitoring systems has previously been allowed on specific heaters in lieu of CEMS, this allowance was discretionary. Since 2002, District staff has concluded that expanded use of CEMS, as proposed in the amendments, will eliminate uncertainty about compliance status associated with excursions outside of the NOx Box parameters that constitute part of the parametric monitoring protocol currently in use. This, as well as the greater accuracy of CEMS, will improve the enforceability of the regulation.

For the proposed heater status report, the required compliance cost is considered to be negligible, although there is also no associated emissions reduction.

4.3 Incremental Cost Effectiveness

Section 40920.6 of the California Health and Safety Code requires an air district to perform an incremental cost analysis for any proposed Best Available Retrofit Control Technology (BARCT) rule or for a rule that is part of an Alternative Emission Reduction Strategy as described in Section 40914 of the Health and Safety Code. This analysis is omitted here because the proposed amendments do not include either of these elements.

4.4 Socioeconomic Analysis

Section 40728.5 of the California Health and Safety Code requires an air district to assess the socioeconomic impacts of the adoption, amendment or repeal of a rule if the rule is one that "will significantly affect air quality or emissions limitations." Although the proposed amendments do not meet these criteria, Applied Development Economics of Walnut Creek, California has prepared a socioeconomic analysis of the proposed rule amendments to assess the impacts of the costs of the additional CEMS monitoring. It is attached to this report as Appendix C. The analysis concludes that the proposed regulation would have a less than significant economic impact to the affected industry.

5.0 Environmental Impacts

Pursuant to the California Environmental Quality Act, the District has had an initial study for the proposed amendments prepared by Environmental Audit, Inc. of Placentia, California. The initial study concludes that there are no potential significant adverse environmental impacts associated with the proposed amendments. A negative declaration will be proposed for adoption by the Air District Board of Directors. The initial study and negative declaration was circulated for public comment prior to the public hearing for this rule. No comments were received.

6.0 Regulatory Impacts

Section 40727.2 of the California Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and air district air pollution control requirements for the equipment or source type affected by the proposed change in air district rules. The air district must then note any differences between these existing requirements and the requirements imposed by the proposed change.

BAAQMD Regulation 9 for NOx sources is structured so that no source is subject to more than one rule under Regulation 9. Therefore, the heaters that are currently subject to Regulation 9, Rule 10, and that are proposed to remain so, are not subject to any other District regulation that establishes specific emission limits or monitoring requirements, although they may be subject to other District regulations that establish permitting requirements, including heater-specific permit conditions, or fees.

U.S. EPA has established New Source Performance Standards (NSPS) in Part 60 of the Code of Federal Regulations (CFR) and National Emission Standards for Hazardous Air Pollutants (NESHAP) in Part 63 of the CFR that include NOx and CO emission limits that affect some refinery heaters as listed in Table 3.

Table 3 – Federal Standards for Petroleum Refinery Heaters		
Federal Standard	**Affected Heaters**	**Requirements**
New Source Performance Standard (NSPS) Subpart D 60.44(a)	Steam Generator; input rating >250 MM BTU/hr; constructed after August 17, 1971	• 0.20 lb NOx/MM BTU limit for gaseous fuel • 0.30 lb NOx/MM BTU limit for liquid fuel
NSPS Subpart Db 60.44(b)	Steam Generator; input rating >100 MM BTU/hr; constructed after June 19, 1984	• 0.10-0.20 lb NOx/MM BTU limit for natural gas and distillate oil fuel
NSPS Subpart J 60.103	Fluid Catalytic Cracking Unit (FCCU) Catalyst Regenerators and Fuel Gas Combustion Devices constructed between June 11, 1973 and June 24, 2008	• 500 ppmv CO limit
NSPS Subpart Ja 60.103	FCCUs, Fluid Coking Units (FCUs) and Fuel Gas Combustion Devices (FGCDs) constructed after May 14, 2007	• 80 ppmv NOx limit at 0% oxygen, 7-day rolling average • 500 ppmv CO limit at 0% oxygen, hourly average
National Emissions Standard for Hazardous Air Pollutants Subpart UUU 63.1565(a)(1)	Catalytic Cracking Units (CCUs) constructed after September 11, 1998	• 500 ppmv CO limit (surrogate for hazardous organic compounds)

Many of the heaters subject to Regulation 9-10 are not subject to any of the NSPS because they predate the trigger dates for applicability of these rules (the rules only apply to sources constructed after the trigger dates). The Regulation 9-10 limit of .033 lb NOx/MM BTU is much more stringent than the federal standards. Regulation 9-10 also contains a more stringent CO limit of 400 ppmv.

The details of which of these federal requirements apply to specific refinery heaters are included in the major facility (Title V) permit for each refinery. In general, Regulation 9-10 already has, and is proposed to continue to have, more restrictive NOx and CO emission limits than the NSPS and NESHAPS. The only case where this is not obvious is for the 80 ppmv NOx limit in NSPS Subpart J. This limit is expressed as a daily average corrected to 0% oxygen while Regulation 9-10 has a refinery-wide daily average limit equivalent to 28 ppmv NOx at 3% oxygen. However, the NSPS standard applies to post-2007 heaters that would not be subject to Regulation 9-10, but would instead be subject to BACT standards if constructed in the Bay Area. BACT requirements would be at least as stringent as this NSPS standard.

7.0 Rule Development Process

District staff first considered a mass-based alternative NOx standard during the process that resulted in the 2010 amendments to Regulation 9-10. At the 2010 public hearing, a request was made by one refinery to consider the possible disincentive effect of the current rule structure to pre-1994 heater modernization and how that disincentive could be eliminated. The District Board directed staff to further consider this and these proposed amendments are the result of that direction.

Staff considered mechanisms to accomplish this task and consulted with refinery operators. District staff updated the District Board of Director's Stationary Source Committee on its rule development process on March 19, 2012. On November 14, 2012, staff posted a draft regulation and on December 4, 2012 held a public workshop in Martinez, CA to solicit public comment. A notice for this workshop was posted on the District website and individual notices were mailed to all refinery operators and other interested parties. Based on comments and a further evaluation of potential control measures, District staff prepared an amended proposal and released it for public comment in May 2013. During the public comment period on the amended proposal, District staff met and communicated with representatives from each refinery and with the Western States Petroleum Association to clarify provisions of the proposed regulation and to receive comments. The current proposed amendments are the product of this extensive process.

Staff received three written comments in response to the amended proposal:

1. Staff had previously considered eliminating a compliance monitoring provision related to heaters in curtailed operation (Section 9-10-301.4). Chevron refinery staff commented that the change would likely result in violations of the current refinery-wide NOx limit, especially when large heaters or the entire refinery is operated at a curtailed level. Because the potential exists for a refinery to operate at a reduced production rate, and emit fewer NOx emissions but still violate the rate-based standard, this draft change has been removed from the proposed amendments.

2. Valero refinery staff made a number of comments related to the alternative NOx limit and to the implementation of the new CEMS requirement. In addition, Valero has engaged staff on the details of the alternative NOx limit implementation and calculations. Most of Valero's comments have been incorporated, and example calculations to illustrate the alternative limits are provided in Appendix A.

3. Communities For a Better Environment staff commented that the draft staff report does not demonstrate a reduction in NOx emissions, and that it does not adequately illustrate the effect of adopting the alternative standard on refinery emissions, and also states that the proposed use of ERC to set the value of the alternative NOx limit represents a violation or relaxation of other District regulations, specifically Regulation 2, Rule 4 (ERC) and Regulation 2, Rule 9 (IERC). Although CBE is correct in that a reduction in NOx emissions is not mandated by the proposed amendments, the ability to use ERC in development of an alternate NOx limit is not precluded by other District rules or any State or federal laws. To better illustrate the effect of alternative NOx standard on refinery emissions, a set of quantitative examples have been added to this report.

After posting and revising the May 2013 draft, District staff continued to meet with affected parties. The final proposed amendments and staff report were posted for public review on September 9, 2013, and on September 16, 2013, again presented information on proposed amendments and the rule development process to the Stationary Source Committee. Staff received three written comments on the proposed amendments, from Tesoro Refining Company, Western States Petroleum Association and Valero Refining Company. The comments and responses are provided in Appendix B.

8.0 Conclusion

The proposed amendments to Regulation 9, Rule 10 will provide an alternative, mass-based NOx emissions standard to the current, rate-based standard of 0.033 lb NOx / MM BTU. By selecting the alternative standard, refineries can more easily replace or modernize the older heaters subject to the rule. Replacement or modernization will result in significantly lower NOx emissions and enable a refinery to make progress towards compliance with the greenhouse-gas reduction mandate of AB 32. The proposed requirement to monitor at least 95% of the NOx emissions from heaters with CEMS will provide more accurate monitoring of the compliance status of refineries and reduce the administrative burden of enforcing the average standard with parametric monitoring systems. The heater status report will provide information for staff to consider future NOx reductions from refinery heaters.

Pursuant to Section 40727 of the California Health and Safety Code, the proposed rule must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments to Regulation 9-10 are:

- Necessary to limit emissions of NOx, a primary precursor to ground-level ozone formation and fine particulate matter, and to provide a mechanism to allow replacement and modernization of refinery heaters to progress towards AB 32 requirements without relaxing the rule;
- Authorized under Sections 40000, 40001, 40702, and 40725 through 40728 of the California Health and Safety Code;
- Written or displayed so that its meaning can be easily understood by the persons directly affected by it;
- Consistent with other BAAQMD rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules or regulations; and
- Implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 40000 and 40702.

The proposed rule amendments have met all legal noticing requirements, have been discussed with the regulated community, and reflect the input and comments of many affected and interested parties. Staff recommends adoption of the proposed amendments to Regulation 9, Rule 10 and of the California Environmental Quality Act Negative Declaration.

9.0 References

1. Bay Area Air Quality Management District: *"BACT / TBACT Workbook"*, http://hank.baaqmd.gov/pmt/bactworkbook/default.htm.

2. Bay Area Air Quality Management District: Staff Report, *"Proposed Amendments to BAAQMD Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries"*, December 2010.

Appendix A

Example Calculations of Implementation of Alternative NOx Standard

Appendix A – Examples of Implementation of Alternative NOx Standard

Example 1: Establish Mass Emission Limit for Alternate NOx Compliance Plan

Assumptions:

Data for Pre-1994 Heaters Subject to 9-10-301 (for simplicity, all are assumed to operate at a consistent NOx emission factor and to operate at 100% capacity on each of the 10 baseline days, and all are still in service and subject to Reg. 9-10 at the time of application for the alternate compliance plan):

Heater	Rated Heat Input (MM BTU/hr)	Emission Factor (lb NOx/MM BTU)	Daily Fuel Use (MM BTU)	NOx Emissions (lb)
#1	50	0.080	1200	96
#2	100	0.050	2400	120
#3	150	0.040	3600	144
#4	150	0.040	3600	144
#5	250	0.009	6000	54
Weighted Average (lb NOx/MM BTU)		**0.033**		
Total (MM BTU)			**16800**	
Total (lb)				**558**

Calculations

The NOx mass emission limit is: **558 lb/day**.

Future Implementation of 9-10-308.3:

If Heater #2 was later replaced (after the alternate compliance plan was approved), the NOx emission limit would become:

(558 – 120) lb NOx/day = 438 lb NOx/day

If Heater #5 was later replaced (after the alternate compliance plan was approved), the NOx emission limit would become:

(558 – 54) lb NOx/day = 504 lb NOx/day

Example 2: Establishing Mass Emission Limit for Alternate NOx Compliance Plan (IERC used to comply with 9-10-301)

Assumptions:

The only difference from Example 1 is the higher NOx emission factor at Heater #5 during the 10 baseline days, which makes the daily average NOx emission rate exceed the limit in 9-10-301. The refinery complies under the current rule by the use of Interchangeable Emission Reduction Credits.

Heater	Rated Heat Input (MM BTU/hr)	Emission Factor (lb NOx/MM BTU)	Daily Fuel Use (MM BTU)	NOx Emissions (lb)	Difference between actual daily emissions and emissions @ 0.033 lb NOx/MM BTU (lb)
#1	50	0.08	1200	96	
#2	100	0.05	2400	120	
#3	150	0.04	3600	144	
#4	150	0.04	3600	144	
#5	250	0.025	6000	150	
Total (MM BTU)			**16800**		
Total (lb)				**654**	**96**

Calculations

The proposed amendments require that the difference between actual emissions during the baseline period and allowed NOx emissions (daily average of 0.033 lb / MM BTU) be addressed at the time the NOx mass emission limit is set. The difference here is:

(654 – 558) lb NOx/day = **96 lb NOx/day**.

The refinery has 3 options to comply:

1) Continue to apply IERC under Reg. 2-9.

2) Mitigate the reduction by surrendering NOx ERC at a 1.15 to 1 ratio. The maximum mitigation that can occur is up to the actual emission level, which results in a daily NOx mass limit of 654 lb NOx/day, and requires the following ERC:

(96 lb NOx /day)(365 day)(1.15) = 40,296 lb NOx = 20.15 tons NOx ERC

3) Improve NOx emissions controls and/or reduce heater use to reduce emissions to no more than 558 lb NOx/day.

Example 3: Application to Modify or Remove Heater #5

Assumptions:

At the time of the application to use the alternative standard, the refinery had already submitted an application for an Authority to Construct that includes modifying heater #5 or removing this heater from service (either circumstance removes the heater from the pre-1994 population). The data from Example 1 is changed to reduce the rated heat input of Heater #5 to zero to show the effect on the overall NOx emission rate:

Heater	Rated Heat Input (MM BTU/hr)	Emission Factor (lb NOx/MM BTU)	Daily Fuel Use (MM BTU)	NOx Emissions (lb)
#1	50	0.08	1200	96
#2	100	0.05	2400	120
#3	150	0.04	3600	144
#4	150	0.04	3600	144
#5	0	0.009	0	0
Total (MM BTU)			**10800**	
Total (lb)				**504**

Calculations

Because Heater #5 has a lower-than-average NOx emission rate, removing this heater would raise the weighted-average NOx emission rate at the remaining heaters, even though total NOx emissions are reduced, and the resulting emission rate would exceed the limit in 9-10-301. If the refinery remained subject to 9-10-301, it would have to mitigate the resulting increase in NOx emission rate. The proposed amendments require that in this specific situation, the baseline NOx emission limit (558 lb NOx/day from Example 1) be reduced to a level that would comply with 9-10-301:

(10800 MM BTU)(0.033 lb NOx/MM BTU) = **356 lb NOx/day**.

The allowable emissions are calculated only for the heaters that would remain subject to 9-10-301. The amount is the difference between the NOx emissions allowed (356 lb NOx/day) and the current emissions (504 lb NOx/day):

504 lb NOx/day – 356 lb NOx/day = **148 lb NOx/day**.

Example 3 (continued)

The refinery has 3 options to comply:

1) Apply IERC under Reg. 2-9.

2) Surrender NOx ERC at a 1.15 to 1 ratio to mitigate the difference. ERC can be surrendered up to the actual emission level from Example 1, which results in a daily NOx mass limit of 558 lb NOx/day. The following amount of ERC would be required:

(148 lb NOx /day)(365 day)(1.15) = 62,123 lb NOx = 31.06 tons NOx ERC

3) Improve NOx emissions controls and/or reduce heater use to reduce emissions to no more than 360 lb NOx/day.

Note: The adjustment in Example 3 is independent of the adjustment in Example 2. If the circumstances in both examples occurred, then both adjustments would be made, and both sets of mitigation options could be used.

Appendix B

Comments and Responses

Appendix B – Comments on Final Proposal and Responses

Written comments were received from two refinery operators (Tesoro Golden Eagle Refinery, Valero Benicia Refinery) and from the Western States Petroleum Association (WSPA).

1. Tesoro objects to District staff's proposal to extend continuous emissions monitoring system (CEMS) coverage for Regulation 9-10 heaters, asserting that: (1) existing parametric monitoring systems are adequate to assure compliance; (2) additional CEMS would be more expensive than estimated by the District, yet monitor only a small fraction (2.7%) of Bay Area NOx emissions; (3) the District Board did not direct staff to increase CEMS coverage; and (4) the proposal would disproportionately affect certain refineries, including Tesoro. Tesoro also raises a number of miscellaneous comments. The District's responses to all comments are below. Many of the comments were raised by Tesoro in previous rounds of public comments on the proposed rule amendments.

   First, regarding the effectiveness of the existing parametric monitoring systems, while Tesoro correctly points out that District staff has been relying on parametric monitoring systems ("NOx boxes") to enforce Regulation 9-10 since the rule was implemented in 2002 (every one of the five Bay Area refineries utilizes some parametric monitoring to demonstrate compliance with the rule), it is this very experience that has led District staff to the conclusion that CEMS are a vastly preferable means to assure compliance with the rule. It is important to note that Regulation 9-10 allows refineries to average emissions between heaters to determine compliance. This has been a tremendous advantage to the refineries, not just in allowing refineries to install NOx controls in the most cost-effective way, but also in accommodating day-to-day fluctuations in raw materials and operating conditions. District staff considers that the ability to verify NOx emissions from these heaters is crucial to be able to enforce a NOx limit that allows emission averaging.

   The NOx box system, however, has been demonstrated to be resource-intensive, significantly more than auditing of CEMS data. Should a heater operate outside of its established NOx box, Reg. 9-10 allows eight months to conduct the source test under similar conditions and then up to 45 days to submit the test results. During that time, compliance status remains unknown. Tesoro's own experience has also demonstrated the limitations of the NOx box system. For extended periods of time, Tesoro has operated outside the established parameters for some heaters (*i.e.*, outside of the applicable NOx box), yet it has failed to perform a source test to establish the resulting emission rate for those heaters. Thus, compliance with the refinery-wide NOx limit was never established for those periods and Tesoro was cited for failure to perform the required test.

   Second, Tesoro asserts that the District's socio-economic analysis (Appendix C) has underestimated the cost of CEMS procurement and installation. However, District staff's cost estimate of $500,000 per CEMS is both well supported and conservative. US EPA

estimates that a typical CEMS installation - similar to that required by the proposed amendments - should cost about $200,000, but District staff has found that costs in the Bay Area may be somewhat higher. The $500,000 per CEMS estimate was based on data supplied by a Bay Area refinery provided during this rule development project. The District has also relied on its own experience in procuring and installing air monitoring equipment. District staff recently performed installations of air monitoring systems that are functionally similar to the CEMS required by the proposed amendments but that have significantly greater analytical capability, at a complete cost no higher than $400,000, including site preparation, construction of a concrete pad, electrical source, instrument enclosure and fencing. Finally, the socio-economic analysis assumed no CEMS would be shared between heaters, even though the District Manual of Procedures allows this in some cases, and even though some Bay Area refinery heaters do share CEMS. Sharing CEMS would cause actual costs to be lower than estimated as well.

Further, Tesoro states that the costs of adding CEMS are not justified because the NOx emissions from refineries constitute only 2.7% of the Bay Area NOx emissions inventory. However, the inventory to which Tesoro refers includes NOx emissions from not only stationary sources, but also non-stationary sources such as automobiles and trucks, over which the District has no jurisdiction. Refinery combustion sources represent 14.7 tons of the 61.9 tons of daily NOx emissions from Bay Area stationary sources. The refinery heaters at issue are some of the largest sources of NOx and represent 22% of the NOx sources subject to regulation by the District.

Third, Tesoro objects that this rule development project should have been limited to the development of an alternative NOx standard. Any rule development process presents an opportunity for District staff to consider improvements to the rule. As discussed above, it is District staff's view that the monitoring requirements under Regulation 9-10 should be amended to improve the enforceability of the rule.

Fourth, Tesoro argues that certain refineries will need to add more CEMS than others and will therefore incur a competitive disadvantage. However, those refineries with greater coverage have already installed CEMS, so staff believes the proposal will set a standard that is more equitable across the five refineries. In the South Coast AQMD, all of the seven major oil refineries are subject to the AQMD's RECLAIM (Regional Clean Air Incentives Market) rule. That rule is similar to Regulation 9-10 in that subject facilities are able to average NOx emissions. In the South Coast AQMD, over 99% of the NOx emissions from refinery heaters are monitored with CEMS, including 100% of the NOx emissions at Tesoro's Los Angeles refinery.

In addition, Tesoro objects that the CEMS requirements will apply to small and low-emitting heaters. But the rule has always exempted from many requirements heaters that are defined as small or that have low fuel use. These heaters will continue to be exempt from CEMS or

parametric monitoring because the limited exemptions in Sections 9-10-111 and 112 exempt these devices from emission standards that must be monitored with CEMS or parametric monitoring systems.

Tesoro also objects to the proposed deadlines for CEMS installation. The previous draft of the amendments published in May 2013 included a shorter deadline, and in response to comments, District staff extended the deadline significantly as reflected in the final proposal. The proposal allows six months from rule adoption for refineries to submit a monitoring plan, then six months for the APCO to notify refineries that the plan has been accepted, and then one year for installation, for a total of two years. Tesoro has not presented any justification for any further extension. Tesoro also proposes to add clarification about the application of emission factors used for parametric monitoring. Currently, the application of emission factors is described in permit conditions which could be amended outside the rule development process. Tesoro has not presented any reason why this system should be changed. Finally, Tesoro proposes to allow District-approved alternatives to CEMS. But the District is not aware of any alternatives, other than the parametric monitoring systems already discussed, and Tesoro has proposed none.

2. Valero considers the alternative mass emission limit to be a workable alternative and supports the proposal to increase CEMS coverage under Regulation 9-10, but suggests modifying the procedure for adjusting the value of the alternate mass emission limit when a heater that is originally included under the limit (referred to here as a "device") is no longer subject to Regulation 9-10. This would occur if the device was removed from service or was modified, as defined in District Regulation 2. Valero also suggests a number of clarifications to the proposed amendments.

   Under the proposal, when a device is replaced or modified, the mass emission limit would be reduced by the contribution from that device. Valero, in their comments, constructed a hypothetical in which: (1) a refinery needed to use Emission Reduction Credits (ERC) to replace expiring Interchangeable Emission Reduction Credits (IERC), as explained in the discussion of the proposed rule amendments in Section 3 of the staff report on page 10; but the refinery (2) did not allocate enough ERC to make up the difference; and (3) chose to operate heaters at a low firing rate (less than capacity) to meet its mass limit rather than to install additional control equipment (it would have to do one of these things to comply with the mass limit). When removing a device in this situation, Valero asserts that a refinery could be required to reduce emissions from the remaining heaters to maintain compliance, which District staff agrees is not the intent of the proposed amendments.

   First, it is unclear whether this hypothetical situation would ever occur. In discussion with Valero staff, they admitted that this scenario would not affect them, and Valero is the only refinery that currently is faced with expiring IERC. Second, Valero's suggested solution – to

allocate the ERC surrendered among heaters, reducing the baseline emission rate from each heater - assumes that the heaters subject to the alternative standard always operate at the same rate, so that the emissions from each could be adjusted proportionally between heaters. This is never the case for refinery heaters, and because of that, a proportional adjustment would not work. The solution to Valero's theoretical problem is for a refinery to plan ahead sufficiently so that, if it intends to comply with a mass NOx emission limit by reducing the firing rate of affected heaters, it must select days to establish baseline emissions for each heater that reflect the low firing rate that the refinery wishes to duplicate (Section 9-10-308.1). In that way, the baseline emissions would equal the actual emissions from the heaters so that when a heater is removed, no additional emissions reductions would be required.

Valero also requests clarification that certain physical changes - the example given was installation of a low-NOx burner - not be considered events that would remove a heater from regulation under Regulation 9-10. This clarification is unnecessary because Section 9-10-110.6 is the section of the rule that disqualifies post-1994 heaters, and does so based on a heater triggering a BACT requirement. BACT only applies to a new or modified heater (Regulation 2-2-206) and the definition of a modification (Regulation 1-217), excludes physical changes that do not result in an increase in emissions or an emission of a new pollutant. Because the definition of a modification is already clear in another regulation, it would be inappropriate to repeat it in Regulation 9-10.

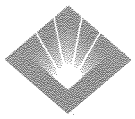
Valero noted an error in a citation in Section 9-10-308.3. Valero is correct that the citation to Section 9-10-308.3 should be corrected to 308.4 in Section 9-10-505.3. This correction will be made to the proposed rule amendments.

Valero suggested that Title V emission factors be used to determine which heaters would be required to install CEMS. The proposed rule specifies that the determination of which sources contribute 95% of NOx emissions (and therefore must have CEMS) shall be based on the most recent calendar year with complete emission information. The appropriate emission factors to use for this purpose are therefore the same as those that the refinery used to establish compliance on a daily basis.

Valero also suggested that, when reporting changed burners as part of Section 9-10-407: Boiler, Steam Generator and Process Heater Status Report, that identical burner replacement need not be reported. Staff agrees and has modified the language in the final rule proposal accordingly.

Valero notes that it is unclear how the Title V emission factors cited in Section 9-10-502.1.2 may be voluntarily changed. A permit-holder may request a change to any element of a Title V operating permit. The process for evaluating such a request is established in other District regulations, including Regulation 2-1 and Regulation 2-2, and it would be inappropriate to repeat that information in this regulation.

3. WSPA's comments all relate to the proposal to extend CEMS coverage in Regulation 9-10, and these are all addressed in the responses to comments from the Tesoro Golden Eagle refinery, above.



Tesoro Refining & Marketing Company LL
Golden Eagle Refinery
150 Solano Way
Martinez, CA 94553-1487
925 228 1220

September 30, 2013

SENT VIA ELECTRONIC MAIL

Mr. Julian Elliot
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

SUBJECT: Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

Dear Mr. Elliot:

Tesoro Refining and Marketing appreciates the opportunity to comment on the proposed changes to Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries. In December of 2010 the BAAQMD Board of Directors directed District Staff to revise Regulation 9 Rule 10 to remove the rule's inherent disincentive to modernize heaters constructed before 1994. Tesoro was and continues to be in support of this change that resulted in the addition of an Alternate NOx Compliance Plan (ANCP). The ANCP option developed is in line with the District's incentive to continue to reduce emissions in the Bay Area while providing industry with a reasonable means to maintain compliance.

Tesoro strongly opposes the District's recent revisions to the proposed language, which requires facilities to install Continuous Emissions Monitoring Systems (CEMS) such that 95% of mass NOx emissions covered by Regulation 9 Rule 10 are monitored by CEMS. Tesoro believes this change is unnecessary, goes against the directive given by the Board, and will create an undue burden on both industry and the District to carry out these monitoring requirements without serving any true benefit to the community.

In a meeting with District Staff and Industry, the District indicated the need for this change in monitoring requirements came about by the alleged confusion with regulating NOx boxes. NOx boxes have been in use for over a decade and have been successfully applied by industry and regulated by the District. There have been no changes to the NOx Box provisions that would introduce additional confusion since their implementation, and Tesoro therefore does not believe this claim to be warranted. As a solution to this problem Tesoro suggests that industry work with the District in a collaborative effort to standardize and streamline the reporting of NOx box excursions and the evaluation of required out of box source testing.

Many years of experience with NOx boxes indicate that NOx boxes are a highly reliable way to conservatively estimate NOx emissions. Due to the complexity of analyzers, CEMS have a much higher failure rate than parametric monitoring systems which have proven to be robust and reliable. Furthermore, years of source test data has proven that the use of NOx boxes consistently over estimates NOx emissions from heaters. NOx boxes have been refined over the years to continuously model worst-case emissions, with little risk of equipment malfunction.

The District Staff Report on Regulation 9 Rule 10 underestimated the cost of installation and maintenance of a CEMS. Tesoro's recent experience installing such equipment indicated the starting cost of installation is upwards of $500,000 and can ultimately cost greater than $1,000,000 in capital investment depending on safety, configuration, and real estate constraints. Furthermore, the Staff Report did not evaluate the resources required on behalf of the District to evaluate, and audit these systems. Significant District resources will be required to approve monitoring plans, approve specific equipment selections, perform required routine field audits, review third party audit reports, and track inoperative analyzers. The District Staff Report on Regulation 9 Rule 10 explicitly states that no actual reductions in emissions will result from this additional monitoring.

The 2008 Bay Area Emission Inventory demonstrates that NOx emissions resulting from combustion at refineries in the Bay Area makes up only 2.7% of the total NOx emissions inventory. The District's report on Regulation 9 Rule 10 indicated that about 75% of the heaters and boilers covered by the 9-10 bubble limit are monitored by CEMS. Considering CO boilers, and the majority of heaters and boilers not subject to Regulation 9 Rule 10 which are most likely monitored by CEMS, a conservative estimate would therefore indicate that about 85% of the 2.7% NOx contribution by refineries is already monitored by CEMS. Requiring industry to spend several millions of dollars only to achieve more accurate monitoring on less than 0.5% of the total Bay Area NOx emissions inventory is not a logical or effective use of resources, on behalf of industry or the District.

During the presentation to the stationary source committee, the District stated that facilities across the Bay Area monitor emissions by CEMS in different capacities, ranging from 50-98% of mass emissions. If the Regulation is promulgated as written, some of the refineries will be required to spend millions of dollars only to comply with the monitoring requirements of this Rule, while others will not be required to make any changes. Tesoro believes this will create a competitive disadvantage in the local industry.

For these reasons, Tesoro believes the existing NOx Box system to be adequate for monitoring emissions and does not believe the huge efforts and costs required for additional accuracy in monitoring to alleviate an alleged point of regulatory confusion is beneficial or justified.

If after reviewing comments, the District's intent remains to move forward with increased monitoring of refinery heaters regardless of the reasons outlined above, Tesoro suggests revising the language to more appropriately target emission sources, increase the timeline for initial installation, clarify parametric requirements, and to allow flexibility as available monitoring technology progresses.

Some of the sources requiring CEMS under the proposed language are very small, low capacity, and low emission heaters. The use of a permitted capacity as the threshold for requiring CEMS would target larger heaters and more effectively target the highest NOx emissions contributors. This method would be consistent with other District regulations and with other regulations throughout California. Additionally, this change would prevent refineries from being required to install CEMS on small, low emitting sources that overall do not significantly contribute to the Bay Area total NOx emissions inventory.

The existing language ultimately allows for one year to install all required CEMS. Previous experience has shown that CEMS installations require a great deal of planning, engineering work, and the timeline is often at the mercy of vendor availability. Considering the number of CEMS that will be required as a result of this rule amendment, not only will Tesoro's staff be overwhelmed with drawing up specifications for each of these analyzers, but the demand on the analyzer manufacturers and the CEMS integration companies will be at a maximum. Tesoro does not believe this timeline to be adequate to properly install the required analyzers and therefore requests an extended timeline for CEMS installation to allow industry the ability to comply with the new regulatory changes.

Those heaters not requiring CEMS under the proposed changes are prescribed the use of up to two emission factors. Tesoro agrees that a minimum of two emission factors are required to adequately model heater emissions, as has been demonstrated through many years of source testing. Tesoro requests further clarification to be included in the regulation which describes the conditions by which to apply these emission factors. Tesoro believes that this will eliminate future confusion and is willing to work with District staff to develop these guidelines.

The existing proposed Regulation 9 Rule 10 language exclusively requires the use of CEMS for monitoring purposes. As is consistent with South Coast Air Quality Management District (SCAQMD) Rule 2012, which also regulates NOx emissions, Tesoro requests that the language be expanded to include alternative monitoring devices at the approval of the District, to allow for advances in monitoring technology and flexibility with the use of alternative methodologies.

The original directive from the District Board was to remove the disincentive for modernization of heaters covered by this Rule. Tesoro believes that the addition of the ANCP achieved this

goal and that the additional monitoring requirements added to the Rule are not in line with the District Staff's directive. The additional monitoring requirements are not justified when taking into consideration what little accuracy this will add to the total Bay Area NOx inventory, and the immense costs that will result with no air quality benefits.

Tesoro appreciates the careful consideration of these comments and concerns, and would welcome the opportunity to discuss any of these issues in more detail.

Regards,

for

Matt Buell
Manager, Environmental

MWB/CHM/kds

cc: Jack Broadbent, APCO
Henry Hilken, Director of Planning, Rules & Research
Dan Belik, Rule Development Manager

VALERO

Benicia Refinery • Valero Refining Company - California
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September 30, 2013

Proposed Amendments to Regulation 9-10
NOx and CO from Boilers, Steam Generators
and Process Heaters

Mr. Julian Elliot
Senior Air Quality Engineer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Mr. Elliot:

Valero Benicia Refinery (Valero) appreciates the opportunity to comment on the Bay Area Air Quality Management District's (District's) final draft Proposed Amended Regulation 9-10 (PAR 9-10). Valero further appreciates all the efforts the BAAQMD staff has made to date in drafting an Alternative NOx Compliance Plan (ANCP) option for complying with the source specific average daily NOx limitation in the current version of Regulation 9 Rule 10. This final draft PAR 9-10 addresses the major concerns Valero has had in developing a feasible alternative to complying with the Refinery-wide average daily concentration-based emission limitation of 0.033 lbs NOx/MMBtu and removing the unintended disincentives to modernize contained in the current rule language. . However, Valero believes that some revisions to the 9/9/2013 draft rule amendment language are in order, and we believe that clarifications of some of the provisions should be provided to remove all ambiguities and avoid varying interpretations during the implementation phase of the rule.

Overall, the ANCP is a workable alternative to the current rule requirements and Valero supports the District's proposal establishing the ANCP baseline, the use of ERC's as emissions offsets, and the District's compromise to require CEMS on 95% of the emissions from ANCP sources. This CEMS proposal addresses Valero's concern that small emitters would be required to install costly or infeasible monitoring devices. Thank you for listening to our issues.

We address our remaining concerns in more detail below.

Section 308.4

This section was newly added in the latest version of PAR 9-10 to require an adjustment to the NOx Daily Emissions limit when a source is removed from the pool of devices subject to the rule and ANCP. Currently, the proposed language reads,

> "The daily NOx limit shall be reduced when a device is no longer subject to this rule. The amount of reduction shall be equal to the baseline NOx daily emissions for that device."

While Valero does not disagree with the concept of reducing the NOx daily limit when a source is removed from the rule, we believe that in one certain circumstance, this particular language of this provision could have unintended consequences. In the instance where a source has opted to utilize ERCs to offset emissions above the rule limitation, but not entirely to the fully allowed emissions baseline, requiring the source to remove baseline emissions rather than actual emissions contributed to the NOx daily limit when the source is removed would reduce the daily NOx limit to a level that may make ANCP compliance difficult without further modifying other equipment or operations in the pool. This again causes a disincentive to modernization.

To illustrate, assume that a facility has 5 identical sources subject to the rule, and that the compliance with the 0.033 lb/MMBtu requirement would result in a limit of 200 tons/day. The historic emissions would establish a baseline of 400 tons/day. However, the facility cannot obtain sufficient ERCs and IERCs to fully offset to the 400 ton/day baseline. Instead, the source offsets to 300 tons, thus establishing a NOx daily limit of 300 tons/day. If we assume each source equally contributed 80 tons to the 400 ton baseline, with a 300 ton NOx daily limits each would operate at 60 tons under the ANCP. When one source is removed, the rule would require removal of 80 tons, rather than the 60 tons the source contributes to the daily NOx limit. The daily NOx limit would be reduced to 220 tons, which would require all of the four remaining sources to reduce operations to 55 tons each, rather than remain at 60 tons each. Since the ANCP cannot be amended, the facility would have to reduce production or make other operational changes to meet the daily NOx mass emissions limit.

Therefore, Valero recommends the rule language be modified to read:

> "The daily NOx limit shall be reduced when a device is no longer subject to this rule. The amount of reduction shall be equal to the <u>contribution to the</u> NOx daily emissions <u>limit</u> for that device."

We believe this language would address the intention of the new provision and not result in any disincentives to modernization, regardless of the daily NOx emissions limit the facility opts to obtain through offsets.

<u>Clarifications</u>

In our meetings with District staff, Valero requested that a clarification be provided in the staff report to denote the types of modifications that may be made to a device that would reduce emissions from that source, but allow the source the ability to remain in the pool of devices still subject to the ANCP. One such example provided was the installation of a low NOx burner. This is relevant to both Sections 308.3 and 308.4 of PAR 9-10, and Valero believes such a clarification is crucial to avoid any disagreement on application of the provision during the implementation of the ANCP. As an additional note, we believe that the reference to Section 308.3 in section 505.3 of the PAR needs to be modified to reflect the renumbering of Section 308.3 to 308.4 from the previous version of the proposed amendments.

In section 405.2.2 the rule language adds provisions for use of substitute emissions factors, but provides no guidance on what emissions factors are acceptable for use if a CEMS is not available. Valero suggests that the District indicate clearly, either in the rule or staff report that the Title V permit emissions factors for the source will be utilized. This will prevent any misunderstandings upon evaluation of the CEMS application.

Likewise, the Title V emissions factors should be used to determine NOx contribution from the devices where NOx Box sources are involved, to determine which sources contribute 95% of

the emissions and thus require CEMS pursuant to section 502.1.1. Currently the rule and staff report do not contain any guidance.

Section 407 requires that any burner change or replacement be reported to the District within 30 days of such change or replacement. With almost 2,000 burners in the Hydrogen Plants alone, required tracking of routine replacements during an operating year could easily become onerous. We would recommend that the rule language be amended to reflect that only non-routine burner replacements be reported.

Finally, in section 502.1.2, it is unclear whether and how the emission factors in the PTO can be voluntarily amended. We would appreciate such an amendment.

Thank you for your consideration of these remaining issues. We are happy to provide further information, if necessary. Also, prior to finalizing the proposed rule, Valero would like to meet with District staff to discuss these issues. Again, we appreciate all of the work that has been done to make this ANCP provision a viable alternative that recognizes the Valero's efforts to reduce NOx emissions at its refinery through the VIP project, and to move towards removing the disincentives to modernization.

Sincerely,

Don Cuffel for

Christopher W. Howe, Director
Health, Safety, Environment & Government Affairs

CWH/DWC/tac

ecc:
Dan Belik, BAAQMD
Julian Elliot, BAAQMD

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Guy Bjerke
Manager, Bay Area Region & State Safety Issues

VIA ELECTRONIC MAIL

October 1, 2013

Mr. Julian Elliot
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

RE: Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters In Petroleum Refineries.

Dear Mr. Elliot:

The Western States Petroleum Association (WSPA) is a non-profit trade association representing companies that explore for, produce, transport, refine and market petroleum, petroleum-based products, natural gas and other energy products in California and five other western states.

WSPA supports the addition of a voluntary Alternate NOx Compliance Plan (ANCP) option in Regulation 9, Rule 10 to remove the disincentives the existing regulation creates for those facilities desiring to replace pre-1994 heaters. The ANCP option is responsive to the BAAQMD Board's direction in December 2010 when they adopted the current language and asked staff to work with industry to address the disincentive issue.

We disagree with the 95% NOx emissions requirement in the Continuous Emissions Monitoring System (CEMS) provision. Any requirement to shift monitoring to CEMS should only apply to the ANCP option, and should be based on the permitted duty of the heater – as is the practice in other District regulations (e.g. 9-7, 9-9) and other regulations throughout California – to prevent requiring an expensive CEMS be installed on a relatively low emitting heater.

WSPA opposes the requirement that non-ANCP participant facilities increase their use of CEMS. While the requirement to add additional CEMS would impact each facility to different degrees – the five refineries do not believe the additional monitoring expense (both capital and on-going maintenance) required to install CEMS on small heaters is justified. The District's own inventory shows that Bay Area refineries represent only 2.7% of the District's overall NOx emissions and approximately 85% of the sources contributing those emissions are already monitored by CEMS. District staff acknowledges in their report that the proposed amendments

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do not reduce NOx emissions – yet the proposed CEMS amendments would significantly increase monitoring costs.

Further, the District's estimate of the range of installation and maintenance costs for CEMS is not representative of the recent, actual costs borne by the refineries. In 2009 the reported range of installation costs started at $500K and a recent installation went over $1,000,000 due to constraints on ground space, stack configuration limits and necessary safety and environmental conditions. WSPA requests that a cost-benefit analysis be performed, as this change will result in significant costs to industry, as well as greatly increase the demand on District resources to perform field audits and track monitor performance.

We strongly believe the current parametric monitoring system (NOx Boxes) option is a conservative and reliable system for addressing NOx emissions from pre-1994 heaters. The failure rate of parametric monitoring has proven to be far less than that of CEMS, despite best maintenance practices, due to the inherently complex nature of CEMS.

District staff has indicated that the need for additional CEMS monitoring arose out of an alleged difficulty in regulating NOx Boxes. NOx Boxes have been successfully used and regulated for over a decade, and therefore WSPA does not agree that a new difficulty has recently been introduced. WSPA alternatively suggests that we work collaboratively with District staff to establish a set protocol for reporting, testing, and evaluating NOx Box excursions to eliminate any confusion or inconsistency.

Lastly, should the District move forward with the CEMS requirement we see several compliance challenges that need to be addressed (i.e. the time period allowed for acquiring and installing the devices).

This rulemaking was begun with direction from the District Board to fix a known disincentive to pre-1994 heater replacement in the existing rule. Unfortunately, staff is now returning to the Board with a rule that does not simply address the disincentive but also adds tremendous hardware and monitoring costs to smaller sources - without any NOx emission reductions.

We urge you to remove the CEMS monitoring requirements from facilities that do not choose to use the voluntary ANCP provisions.

Sincerely,

Guy Bjerke
Manager, Bay Area Region & State Safety Issues

Copies to:
Jack Broadbent, APCO
Henry Hilken, Director of Planning, Rules & Research
Dan Belik, Rule Development Manager

Appendix C

Socioeconomic Analysis

APPLIED DEVELOPMENT ECONOMICS

August, 2013

SOCIOECONOMIC ANALYSIS OF PROPOSED AMENDMENTS TO REGULATION 9, RULE 10: NOX AND CO FROM BOILERS, STEAM GENERATORS, AND PROCESS HEATERS IN PETROLEUM REFINERIES

Prepared for:

Bay Area Air Quality Management District

Prepared by:

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INTRODUCTION

The Bay Area Air Quality Management District ("BAAQMD" or the "Air District") seeks to amend Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries ("Regulation 9-10" or "the rule"). The Air District is considering amendments to Regulation 9, Rule 10 that would set a voluntary, alternative NOx emission limit that a refinery could elect to use instead of the current emission limit that applies to most refinery heaters that were in service in 1994 ("pre-1994 heaters"). The Air District is also considering amendments that would require more continuous emission monitoring systems (CEMS) to be used on refinery heaters subject to this rule.

After this introduction, this report discusses in greater detail how the District proposes to amend Regulation 9-10 (Proposed Rule Amendment). After that discussion, the report describes the socioeconomic impact analysis methodology and data sources (Methodology). The report describes population and economic trends in the nine-county San Francisco Bay Area (Regional Economic Trends), which serves as a backdrop against which the District is contemplating changes to Regulation 9-10. Finally, the socioeconomic impacts stemming from the proposed amendments are discussed in the final section.

The report is prepared pursuant to the provisions of AB2051 (Section 40728.5 of the California Health and Safety Code), which requires an assessment of socioeconomic impacts of proposed air quality rules. The findings in this report can assist District staff and Board of Directors in understanding the socioeconomic impacts of the proposed requirements. Figure 1 is a map of the nine-county region that comprises the San Francisco Bay Area Air Basin.

FIGURE 1
MAP OF SAN FRANCISCO BAY AREA REGION

PROPOSED RULE AMENDMENTS

The Air District adopted Regulation 9-10 on January 5, 1994 and subsequently amended it on July 17, 2002 and on December 15, 2010. The regulation imposes a refinery-wide average NOx emissions limit on refinery boilers, steam generators and process heaters (excluding CO (carbon monoxide) boilers) that were permitted prior to the adoption of the rule ("pre-1994 heaters"). The NOx limits were not applied to boilers, steam generators and process heaters that would be permitted after the rule was adopted ("post-1994 heaters") because these devices would be subject to stringent NOx limits as a result of the District's "best available control technology" (BACT) permit requirements. The rule also imposes a specific (not average) NOx emission limit on all CO boilers. The NOx limits in Regulation 9-10 for pre-1994 heaters, combined with BACT permit requirements for post-1994 heaters, resulted in significant reductions in NOx emissions from Bay Area refinery operations beginning in 2002. Currently, 81 percent of the total rated capacity of refinery boilers, steam generators and process heaters in the Bay Area is equipped with NOx controls of some kind.

The Air District is considering amendments to Regulation 9-10 that would set a voluntary, alternative NOx emission limit that a refinery could elect to use instead of the current emission limit that applies to most refinery heaters that were in service in 1994 ("pre-1994 heaters"). The Air District is also considering amendments that would require more continuous emission monitoring systems (CEMS) to be used on refinery heaters subject to this rule.

The current NOx emission limit is a daily, average emission rate limit expressed as 0.033 pounds of NOx per million BTUs of collective heat input (0.033 lb/MM BTU) at pre-1994 heaters. The proposed alternative limit would set a daily NOx emissions limit based on the mass of NOx emitted from the pre-1994 heaters (ton/day). Each refinery would need to choose whether to have its entire population of pre-1994 heaters be subject to the existing emission rate limit or instead have them be subject to a mass limit.

Like the existing emission rate limit, the proposed mass limit still would be a refinery-wide limit as opposed to a source-specific limit, which will allow refinery operators to retain flexibility over their operations. The mass limit will be different for each refinery choosing this alternative compliance method. To calculate the mass limit for any refinery under the proposal, a refinery operator would determine the "baseline NOx daily emissions" from each pre-1994 heater (referred to as a "device" in the proposed rule) using actual emissions data from a "baseline" period, which is discussed in more detail below. All of the devices taken together would then be subject to a daily NOx mass limit that is equal to the sum of the baseline NOx daily emissions for all of the devices. Provisions in the proposed rule allow for emission reduction credits (ERCs) to be used in place of expiring interchangeable emission reduction credits (IERCs) during the baseline period, or to be used in place of emission reductions that would have been required under the existing rule for any project for which a permit application has been submitted in order to set the baseline NOx daily emissions limit. A refinery's daily NOx mass limit (which as mentioned above is equal to the sum of the baseline mass emissions from each device) would be reduced whenever a device is no longer subject to this rule (for example, if the device is modified or taken out of service). The amount of the reduction is the baseline NOx daily emissions for that device.

METHODOLOGY

Applied Development Economics (ADE) began the analysis by preparing a statistical description of the industry group of which the affected sources are a part, analyzing data on the number of establishments, jobs, and payroll. We also estimated sales generated by impacted industries, as well as net profits for each affected industry, in this case petroleum refining.

This report relies heavily on the most current data available from a variety of sources, particularly the State of California's Employment Development Department (EDD) Labor Market Information Division. In addition, this report relied on data from the State of California's Department of Energy, particularly with respect to measuring throughput capacity of the sole refinery expected to have compliance costs related to the proposed CO boiler NOx emission limits. Another important source of information was the United States Department of Energy/Energy Information Agency, which provides data on retail and wholesale prices of gasoline and other refinery products. For purposes of estimating profits, ADE reviewed industry-specific financial ratios issued by the US Internal Revenue Service.

With the above information, ADE was able to estimate net after tax profit ratios for sources affected by the proposed rule amendments. ADE calculated ratios of profit per dollar of revenue for affected industries. The result of the socioeconomic analysis shows what proportion of profits the compliance costs represent. Based on assumed thresholds of significance, ADE discusses in the report whether the affected sources are likely to reduce jobs as a means of recouping the cost of rule compliance or as a result of reducing business operations. To the extent that such job losses appear likely, the indirect multiplier effects of the jobs losses are estimated using a regional IMPLAN input-output model. In some instances, particularly where consumers are the ultimately end-users of goods and services subject to proposed rule amendments, we also analyzed whether costs could be passed to households in the region. However, in this rule, no job losses or consumer impacts are anticipated.

When analyzing the socioeconomic impacts of proposed new rules and amendments, ADE attempts to work closely within the parameters of accepted methodologies discussed in a 1995 California Air Resources Board report called "Development of a Methodology to Assess the Economic Impact Required by SB513/AB969" (by Peter Berck, PhD, UC Berkeley Department of Agricultural and Resources Economics, Contract No. 93-314, August, 1995). The author of this report reviewed a methodology to assess the impact that California Environmental Protection Agency proposed regulations would have on the ability of California businesses to compete. The California Air Resources Board (ARB) has incorporated the methodologies described in this report in its own assessment of socioeconomic impacts of rules generated by ARB. One methodology relates to determining a level above or below which a rule and its associated costs is deemed to have significant impacts. When analyzing the degree to which its rules are significant or insignificant, ARB employs a threshold of significance that ADE follows. Berck reviewed the threshold in his analysis and wrote, "The Air Resources Board's (ARB) use of a 10 percent change in [Return on Equity] ROE (i.e. a change in ROE from 10 percent to a ROE of 9 percent) as a threshold for a finding of no significant, adverse impact on either competitiveness or jobs seems reasonable or even conservative."

REGIONAL ECONOMIC TRENDS

This section of the report tracks economic and demographic contexts within which District staff and officials are contemplating changes to Rule 9-10. Table 1 tracks population growth in the nine-county San Francisco Bay Area between 2002 and 2012, including data for the year 2007. Between 2002 and 2007, the region grew by 0.4 percent a year, which was considerably slower than statewide annual growth rate for the same period of 0.9 percent. Between 2007 and 2012, the region increased its rate of growth to an annual rate of 0.8 percent. Overall, there are 7,327,627 people in the region. At 1,842,254, Santa Clara County has the most people, while Napa has the least, at 138,383.

TABLE 1
POPULATION TRENDS: NINE COUNTY SAN FRANCISCO BAY AREA AND CALIFORNIA: 2002 – 2012

	2002	2007	2012	02-07 ANN. CHG.	07-12 ANN. CHG.
California	**35,163,609**	**36,704,375**	**37,966,471**	**0.9%**	**0.7%**
Bay Area:	**6,883,559**	**7,033,325**	**7,327,626**	**0.4%**	**0.8%**
Alameda	1,467,892	1,484,085	1,548,681	0.2%	0.9%
Contra Costa	984,256	1,027,264	1,074,702	0.9%	0.9%
Marin	247,342	249,546	254,007	0.2%	0.4%
Napa	128,683	133,969	138,383	0.8%	0.7%
San Francisco	782,599	795,002	825,111	0.3%	0.7%
San Mateo	704,014	707,820	735,678	0.1%	0.8%
Santa Clara	1,693,752	1,747,912	1,842,254	0.6%	1.1%
Solano	407,882	412,908	418,387	0.2%	0.3%
Sonoma	467,139	474,819	490,423	0.3%	0.6%

Source: California DOF E-4 2000-2010 Final EOC Report with 2000 and 2010 Census, and California DOF E-4 2013

Data in Table 2 describe the larger economic context within which officials are contemplating the proposed updates to the Rule 9-10. Businesses in the region employ over three million workers, or 3,245,491. The number of jobs in the region declined annually by 0.5 percent between 2007 and 2012, after having grown at a low annual pace of 0.1 percent a year between 2002 and 2007.

Relative to the state as a whole, manufacturing, professional/business services, information, and financial services sectors comprise a greater proportion of the region's employment base. In the region, these sectors comprise 9.4 percent (manufacturing), 11.0 percent (professional/business services), 3.7 percent (information) and 3.7 percent (financial services) respectively of total private and public sector employment. In the state, these sectors comprise 8.3 percent (manufacturing), 7.3 percent (professional/business services), 2.9 percent (information), and 3.5 percent (financial services) of the statewide job base. In other words, as a percent of total workforce, the region employs more people in sectors with occupations that presumptively require more skills and are higher-paying.

Of the 3,245,491 positions, 187,750 (5.8 percent) are public sector positions, excluding education. Including education, the public sector employed 341,546 or 10.5 percent of all public and private sector jobs in 2012, meaning that public education alone comprises 4.7 percent of all Bay Area jobs. It is important to note that the 10.5 percent figure somewhat understates public sector employment because the EDD has not issued public sector elementary/secondary school employment data for San Francisco County for 2012. In the state, slightly over 15 percent of all public and private sector jobs are in the public sector. Excluding education, the public sector comprises 8.5 percent of all statewide jobs, meaning public sector employment in education alone comprises 6.8 percent of all jobs.

TABLE 2
SECTORAL EMPLOYMENT TRENDS: NINE COUNTY SAN FRANCISCO BAY AREA AND CALIFORNIA: 2002 - 2012

	San Francisco Bay Area: Employment Trends			SF Bay Area: Employment Distribution and Change			California: Employment Distribution and Change		
	2002	2007	2012	2012 Dist.	02-07 Ann. Chg.	07-12 Ann. Chg.	2012 Dist.	02-07 Ann. Chg.	07-12 Ann. Chg.
Total, all industries and sectors	**3,312,546**	**3,323,630**	**3,245,491**	**100%**	**0.1%**	**-0.5%**	**100%**	**1.0%**	**-1.0%**
Goods-Producing	602,766	550,838	459,874	14.2%	-1.8%	-3.5%	14.9%	-0.4%	-4.1%
Agriculture and Natural Resources	23,485	20,413	18,621	0.6%	-2.8%	-1.8%	2.7%	0.5%	1.0%
Mining (less oil and gas)	538	195	386	0.0%	-	14.6%	0.0%	-0.2%	-4.1%
Construction	182,399	192,082	136,237	4.2%	1.0%	-6.6%	3.9%	2.9%	-8.4%
Manufacturing (less refineries)	396,344	338,148	304,631	9.4%	-3.1%	-2.1%	8.3%	-2.3%	-3.1%
Service-Providing Sectors: Consumer and Business	1,493,658	1,511,434	1,501,617	46.3%	0.2%	-0.1%	43.1%	1.7%	-1.1%
Retail (less gas stations)	330,949	331,284	308,252	9.5%	0.0%	-1.4%	10.0%	1.4%	-1.8%
Wholesale	129,192	126,894	115,500	3.6%	-0.4%	-1.9%	4.5%	2.1%	-1.4%
Transportation and Warehousing (less pipeline services)	104,437	72,375	78,458	2.4%	-7.1%	1.6%	2.7%	0.4%	-1.1%
Information	124,190	113,084	121,447	3.7%	-1.9%	1.4%	2.9%	-1.2%	-2.0%
Financial Activities	147,833	146,927	120,673	3.7%	-0.1%	-3.9%	3.5%	1.3%	-3.4%
Real Estate and Leasing	61,793	59,335	53,531	1.6%	-0.8%	-2.0%	1.7%	1.0%	-2.6%
Professional and Business Services	294,762	330,858	356,076	11.0%	2.3%	1.5%	7.3%	3.2%	0.5%
Leisure and Hospitality (i.e. lodgings, food, entertainment)	300,502	330,677	347,681	10.7%	1.9%	1.0%	10.5%	2.5%	0.2%
Service-Providing Sectors: Institution-based Services	504,113	516,943	566,368	17.5%	0.5%	1.8%	19.4%	1.4%	1.0%
Education (public and private)	218,887	219,683	237,894	7.3%	0.1%	1.6%	9.1%	0.9%	-0.2%
Health Services	285,226	297,260	328,474	10.1%	0.8%	2.0%	10.2%	1.9%	2.1%
Service-Providing Sectors: Other Services	389,584	398,608	416,543	12.8%	0.5%	0.9%	13.1%	1.0%	-0.2%
Others (i.e. mgt. of companies, admin., waste, & other)	388,924	396,652	402,933	12.4%	0.4%	0.3%	12.6%	1.0%	-0.5%
Unclassified*	660	1,956	13,610	0.4%	24.3%	47.4%	0.5%	2.0%	7.2%
Energy and Utilities	22,792	21,614	24,800	0.8%	-1.1%	2.8%	1.0%	0.6%	0.4%
Utilities**	4,846	3,500	7,664	0.2%	-6.3%	17.0%	0.4%	1.0%	0.3%
Energy (i.e. oil/gas, refineries, gas stations, pipelines)	17,946	18,114	17,136	0.5%	0.2%	-1.1%	0.6%	0.3%	0.4%
Public Sector (less education)	213,027	210,884	187,750	5.8%	-0.2%	-2.3%	8.5%	0.3%	-0.5%
Federal Government	56,886	52,283	48,413	1.5%	-1.7%	-1.5%	1.7%	-0.6%	0.5%
State Government	31,730	28,324	29,617	0.9%	-2.2%	0.9%	1.7%	-1.1%	-0.1%
Local Government	124,411	130,277	109,721	3.4%	0.9%	-3.4%	5.2%	1.1%	-0.9%

** Note: Employment and employment change between 2002, 2007 and 2012 may be overstated because what is "unclassified" in one year may not be so in another*
*** Note: Utilities employment data for 2002 and 2007 (relative to 2012) undercounted due to masking*
Source: ADE, Inc., based on California EDD LMID

The table above also shows precipitous decline in employment in industries most affected by the downturn in the economy that began in late 2007, namely housing. Construction employment in the Bay Area declined by 6.6 percent per year between 2007 and 2012, with financial services (-3.9 percent a year) and real estate (-2.0 percent a year) declining significantly over the same period.

The proposed amendments to Rule 9-10 affect one particular industry in the Bay Area, namely refineries. While the California EDD LMID reports that there are 21 refineries in the nine-county region (see Table 3 below), more than likely, this state agency applied a broader definition for refinery operations in the region. Rule 9-10 defines refineries as facilities engaged in the production of gasoline, etc. through the distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives. The EDD data includes facilities classified under BAAQMD rules as distribution facilities. Nonetheless, the table below shows refinery trends per the EDD LMID. What is striking about the table below is the high average pay workers garner in this industry. Average annual pay is estimated at $168,252.

TABLE 3
TRENDS IN REFINERIES BASED ON CALIFORNIA EDD LMID: SAN FRANCISCO BAY AREA AND CALIFORNIA

Bay Area	2002	2007	2012	02-07 Ann. Chg.	07-12 Ann. Chg.
Establishments	33	17	21	-12%	4%
Employment	6,551	6,843	6,758	1%	0%
Avg. Pay	$113,015	$179,472	$168,252	10%	-1%
California	**2002**	**2007**	**2012**	**02-07 Ann. Chg.**	**07-12 Ann. Chg.**
Establishments	172	148	127	-3%	-3%
Employment	12,884	12,932	12,611	0%	-1%
Avg. Pay	$89,721	$148,619	$170,217	11%	3%

Source: ADE, Inc., based on California EDD LMID

Table 4 below identifies the businesses in the Bay Area that are refineries that would be subject to the rule. There are five refineries. The list comes from the California Energy Commission, which also included each refinery's respective throughput capacity. Of the five operating refineries in the region, Chevron is the largest, refining 245,271 42-gallon barrels per day.

TABLE 4
SAN FRANCISCO REFINERIES SUBJECT TO PROPOSED RULE AMENDMENTS

		Daily Throughput Capacity (barrels per day)
1	Chevron U.S.A. Inc., Richmond Refinery	245,271
2	Tesoro Refining & Marketing Company, Golden Eagle (Avon/Rodeo) Refinery	166,000
3	Shell Oil Products US, Martinez Refinery	156,400
4	Valero Benicia Refinery	132,000
5	ConocoPhillips, Rodeo San Francisco Refinery	78,400
		778,071

Source: BAAQMD and California Energy Commission

SOCIO-ECONOMIC IMPACTS

This section of the report analyzes socioeconomic impacts stemming from changes to the Rule 9-10. District staff estimates that CEMS cost from $100,000 to $500,000 to install and estimates $25,000 per year in operating costs, including maintenance and performance testing. Utilizing the highest cost, if the proposed amendments are adopted, the impacted sources will incur $1.725 million in annual costs over a ten year period. This section of the report compares these annual costs against estimated revenues and net profits generated by the affected sources.

TABLE 5
ESTIMATED CAPITAL AND OPERATIONAL COST OF CEMS: TEN YEAR TOTAL AND ANNUAL ESTIMATE

Est. Capital and Operational Cost of CEMS over Ten Years	$17,250,000
Est. Annual Capital and Operational Cost of CEMS Over Ten Yr. Period	$1,725,000

Source: BAAQMD

The throughput capacity of the five affected refineries is approximately 778,071 42-gallon barrels a day, according to the State of California. Assuming a 90 percent utilization rate, and further estimating the price of wholesale gasoline at $1.876 per gallon, wholesale diesel at $1.858, and other products at $1.579 , we estimate the affected refineries generate $16.0 billion in revenues a year, from which is generated $1.1 billion in net profits. When the annual cost of $1.725 million is compared against estimated annual net profits, we obtain a cost-to-net profit ratio of less than one percent, or 0.15 percent. As a result, impacts are less than significant. Moreover, because affected establishments are not small businesses, small businesses are not disproportionately impacted by the proposed amendments.

TABLE 6
SOCIOECONOMIC ANALYSIS OF PROPOSED AMENDMENTS TO REGULATION 9, RULE 10

SF Bay Area Refineries	
Establishments	5
Est. Annual Revenues	$16,047,223,249
Est. Annual Profits	$1,123,305,627
Annual Rule Cost	$1,725,000
Annual Cost to Profit Ratio	0.15%
Significant	no

Source: ADE, Inc.

Appendix D

California Environmental Quality Act
Initial Analysis and Negative Declaration

Initial Study/Negative Declaration for the Amendments to Bay Area Air Quality Management District Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

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August 2013

Chapter 1

Chapter 2

Chapter 3

Chapter 4

FIGURE:

TABLES:

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Chapter 1

Introduction

Purpose of this Document

This Negative Declaration assesses the environmental impacts of the proposed adoption of amendments to Regulation 9, Rule 10 – Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries (Regulation 9-10) - by the Bay Area Air Quality Management District (BAAQMD or District). This assessment is required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations §15000 et seq.). A Negative Declaration serves as an informational document to be used in the decision-making process for a public agency that intends to carry out a project; it does not recommend approval or denial of the project analyzed in the document. The BAAQMD is the lead agency under CEQA and must consider the impacts of the proposed rule amendments when determining whether to adopt them. The BAAQMD has prepared this Negative Declaration because no significant adverse impacts are expected to result from the proposed rule amendments.

Scope of this Document

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agriculture and forestry resources,
- air quality,
- biological resources,
- cultural resources,
- geology / soils,
- greenhouse gas emissions,
- hazards & hazardous materials,
- hydrology / water quality,
- land use / planning,

- mineral resources,
- noise,
- population / housing,
- public services,
- recreation,
- transportation / traffic, and
- utilities / service systems.

Impact Terminology

The following terminology is used in this Initial Study/Negative Declaration to describe the levels of significance of impacts that would result from the proposed rule amendments:

- An impact is considered *beneficial* when the analysis concludes that the project would have a positive effect on a particular resource.
- A conclusion of *no impact* is appropriate when the analysis concludes that there would be no impact on a particular resource from the proposed project.
- An impact is considered *less than significant* if the analysis concludes that an impact on a particular resource topic would not be significant (i.e., would not exceed certain criteria or guidelines established by BAAQMD). Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that an impact on a particular resource topic would be significant (i.e., would exceed certain criteria or guidelines established by BAAQMD), but would be reduced to a less than significant level through the implementation of mitigation measures.

Organization of This Document

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- Chapter 1, "Introduction," identifies the purpose, scope, and terminology of the document.

- Chapter 2, "Description of the Proposed Rule," provides background information of Regulation 9, Rule 10, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.

- Chapter 3, "Environmental Checklist," presents the checklist responses for each resource topic. This chapter includes a brief setting description for each resource area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

- Chapter 4, "References Cited," identifies all printed references and personal communications cited in this report.

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Chapter 2

Description of the Proposed Rule

BACKGROUND

The BAAQMD regulates nitrogen oxides (NOx) and carbon monoxide (CO) by setting emission limits for certain combustion devices at petroleum refineries in the San Francisco Bay Area under Regulation 9, Rule 10, (Regulation 9-10). Regulation 9-10 currently imposes a 0.033 lb NOx per million British Thermal Units (BTU) heat input (daily average) for each refinery operating within the District's jurisdiction. The regulation imposes a refinery-wide average NOx emissions limit on refinery boilers, steam generators, and process heaters (excluding CO boilers) that were permitted prior to the adoption of the rule (collectively referred to herein as pre-1994 heaters). Regulation 9-10 includes "best available retrofit control technology" (BARCT) NOx limits and "reasonably achievable control technology" (RACT) NOx limits for pre-1994 heaters, and separate BARCT and RACT limits for CO boilers. BARCT limits satisfy California requirements for ozone non-attainment areas, while RACT standards satisfy less-stringent federal requirements for ozone non-attainment areas.

Regulation 9-10 is unusual because most of the heaters subject to the rule do not have source-specific emission limits, but instead are subject to the refinery-wide daily, average BARCT and RACT NOx limits. The rule was structured this way in order to minimize costs of compliance with the required NOx emission reductions, and to allow operational flexibility on a day to day basis as heater demand changes.

OBJECTIVES

The objective of the alternative standard is to provide operational flexibility to refinery operators and encourage energy efficiency improvements, including replacement of refinery heaters, which, if done, reduces overall NOx emissions because the new source review (NSR) provisions for new heaters are much more stringent than the Regulation 9-10 provisions. Because of AB32 requirements, if refineries need to replace heaters to gain energy efficiency and reduce greenhouse gas emissions, (which are largely carbon dioxide emissions), the Regulation 9-10 standard will not serve as a disincentive to replace heaters subject to the rule. The alternative standard would not require retro-fitting of existing heaters with control equipment to meet the pounds of NOx per million BTU heat input standard, instead, the emissions cap would decrease by the average amount of NOx emitted from the heater that was removed.

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards for ozone and other air pollutants to define the levels considered safe for human health. The California Air Resources Board (CARB) has also set a California ozone standard. The Bay Area is a non-attainment area for the state one-hour ozone standard and federal eight-hour ozone standard. Under State law, ozone non-attainment

areas must prepare plans showing how they will attain the state standard. The 2010 Clean Air Plan (CAP) is the most recent planning document for the State one-hour ozone standard. Because the Bay Area is a marginal non-attainment area for the national one-hour standard, the least severe non-attainment classification, the BAAQMD is not required to prepare an attainment plan for the national standard. In addition, NOx emissions react in the atmosphere to form secondary particulate matter. The Bay Area is not in attainment of California ambient air standards for particulate matter of 10 microns or less (PM10) or for particulate matter of 2.5 microns or less (PM2.5).

RULE AMENDMENTS UNDER CONSIDERATION

The proposed amendment creates a voluntary alternative to the refinery-wide, average NOx limit in Section 301 of Regulation 9-10. The alternative standard applies to the same, pre-1994 population of heaters that are subject to Section 9-10-301. While Section 301 includes a *daily average emission rate* limit expressed in units of "pounds of NOx per million BTU of heat input", the alternative limit is a *daily total mass* limit expressed in units of "pounds of NOx per day". The value of the alternative standard is not set in the rule, since the value will be different for each refinery that elects to use the alternative standard. Instead, the proposed amendment includes a procedure for establishing the alternative limit for each refinery. The alternative limit would be the sum of the baseline emissions for each of the heaters subject to Section 9-10-301 at the time of the application to use the alternative standard. Each heater would establish a baseline emission based on 10 days of historical operation in the last three years. All heaters in the refinery would use the same 10 days. In this way, the alternative limit would continue to offer flexibility in complying with the regulation, since individual heaters would not have specific emission limits. However, unlike the current limit in Section 9-10-301, the alternative limit would not be perceived as a disincentive to remove or modify any heater subject to the alternative, because removal or modification of a heater would not result in a requirement to add additional NOx controls on the remaining heaters. After the alternative limit is set, the limit would be reduced whenever a heater subject to the alternative limit is permanently removed from service by the contribution of that heater to the total.

Although adoption of the alternative standard by a refinery would prevent a pre-1994 heater removal or modification from triggering new NOx control requirements on existing heaters, the alternative standard might require new NOx controls. This would occur if a refinery were to increase its fuel usage at pre-1994 heaters in the future such that the refinery would exceed its mass NOx emissions allowance, even if the emissions still met the standard based on heat input in Section 9-10-301, 0.033 lb NOx/MM BTU.

For a refinery that relied on inter-changeable emission reduction credits (IERC) to comply indirectly with Regulation 9-10 during the baseline period, the alternative mass emission limit would provide a mechanism to establish a mass emission limit. A refinery could use ERCs at a 1.15:1 ratio in the same way as ERCs can be used to offset the emissions from a new source. This would be an expansion of the use of ERCs under District regulations, which currently only allow ERCs to be used for offsets for NSR

permitting purposes or to be exchanged for (time-limited) IERC. Of course, a facility also could continue to use IERCs to comply with the alternate standard.

In addition, the District is also proposing to amend the monitoring provisions for NOx emissions in this rule. Regulation 9-10 requires compliance with the emission rate limit to be demonstrated using either a continuous emissions monitoring system (CEMS) data or a parametric monitoring system commonly referred to as the "NOx box." A CEMS is an automated, high-frequency sampling system that is widely considered the most accurate monitoring method available. CEMS coverage by refineries varies, from 55% of the number of heaters monitored by CEMS to nearly 90%. To make CEMS coverage more consistent among the Bay Area refineries, to improve the enforceability of the rule and to reduce the administrative burden of regulating parametric monitoring system heaters, the District is now proposing to expand CEMS coverage at all Bay Area refineries such that at least 95% of the NOx mass emissions to be monitored with CEMS, regardless of whether the refinery is operating under the existing rate-based limit or the proposed alternative mass limit. For the small subset of pre-1994 heaters that are not equipped with CEMS at a refinery, the District is proposing to eliminate the NOx boxes and simplify the monitoring and calculations required to demonstrate compliance with the rule. Finally, the District is proposing that refineries submit information on burners in heaters subject to the rule, and update the information when burners are replaced. This information is useful for assessing opportunities for further NOx emission reductions at these heaters, particularly as AB 32 requirements are implemented.

PROPOSED METHOD OF CONTROL

Refineries comply with the current emission standard for pre-1994 heaters in Regulation 9-10 by applying a variety of NOx control technologies to refinery heaters in a combination that allows compliance with the daily, average emission rate limit. These technologies range from basic, low-NOx burners that have NOx emission rates around 30 ppmv (at three percent oxygen) to more-advanced burners that achieve lower NOx emission rates through staged combustion techniques and other NOx-minimization techniques. Some heaters are controlled with selective catalytic reduction (SCR) systems, or with a variation of SCR that omits the catalytic reaction stage – "selective non-catalytic reduction" (SNCR).

The District is proposing a new, alternate emission standard that would be a mass-based limit for pre-1994 heaters subject to Regulation 9-10. Between the time that the rule was adopted in 1994 and the time that the standards became fully effective in 2002, each refinery examined its particular population of heaters and applied NOx controls in the most effective manner possible from the perspective of both costs and emissions reductions. And since 2002, the refineries have had to add additional controls on pre-1994 heaters under certain circumstances. There are two situations where the current rule would require a refinery to add additional NOx controls to pre-1994 heaters in order to maintain compliance. The first situation occurs when a pre-1994 heater is removed from service and the average rate of the heaters remaining in the population exceeded the 0.033 lb NOx/MM BTU standard. In that case, one or more of the remaining heaters

would be required to be retrofitted with additional NOx controls to bring the overall average down to the standard. The second situation occurs when a refinery operator has complied indirectly with this limit by using IERCs as allowed under Regulation 2, Rule 9: Interchangeable Emission Reduction Credits, and the source of the IERCs is lost. In this situation, similar to the first, the amount of the required additional NOx emission reductions on pre-1994 heaters is equal to the amount of emission reductions previously provided by the source of IERC. It has been argued that the current rule creates a disincentive to replace or modernize heaters that are subject to Regulation 9-10 because the less expensive, most cost effective emissions reductions have already been achieved.

As the less expensive control options have been implemented, only more expensive control options remain. (The District examined the further costs of control of pre-1994 heaters at each refinery recently, as part of the rule development effort that led to the 2010 amendments to Regulation 9, Rule 10. Staff concluded that a further reduction in the 0.033 lb NOx/MM BTU standard was not cost effective at that time.)

POTENTIAL EMISSION REDUCTIONS

The proposed alternative emission standard is voluntary and therefore is not assured of producing any particular level of emission reduction. Even if adopted by a refinery, as with the existing rate-based standard, if no heaters subject to Regulation 9-10 were replaced, there would be no change in the emissions. The proposed amendment contains requirements, however, to ensure that if a refinery elects to adopt the alternative standard, that emission reductions that would have been required by the current provisions of Regulation 9-10 will still occur for any known project.

AFFECTED AREA

The proposed rule amendments would apply to facilities under BAAQMD jurisdiction. The BAAQMD jurisdiction includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma counties (approximately 5,600 square miles). The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

See Figure 1 depicting the area covered by the Bay Area Air Quality Management District. The refineries that fall within the District are located in Contra Costa and Solano counties adjacent to the San Francisco Bay.

The Chevron refinery is located in the City of Richmond in Contra Costa County. The refinery lies to the west of Castro Street and mostly to the north of Interstate 580 and some storage tanks and the wharf lie south of Interstate 580. The refinery occupies most

of the Point San Pablo Peninsula and covers approximately 2,900 acres. It is generally bordered on the north and south by the residential communities of North Richmond and Point Richmond, respectively. East of the refinery, across Castro Street and Garrard Boulevard, are the Iron Triangle and Santa Fe communities and central and downtown Richmond. San Francisco and San Pablo Bays form the western border of the refinery.

The Valero refinery is located on about 800 acres of land within the City of Benicia. The refinery is located about 0.5 mile north of Interstate 780 and immediately west of Interstate 680. Valero is bisected in a north-south direction by East Second Street. The refinery is bounded on the north by residential development and open space, on the east by an industrial park and Interstate 680, on the south by industrial development, and on the west by residential development.

The ConocoPhillips refinery is located on approximately 1,100 acres of land in the unincorporated area northeast of the community of Rodeo. The refinery property is bounded on the north by San Pablo Bay and a marine terminal, on the east by agricultural lands, on the south and southwest by a residential area and on the west by San Pablo Bay. Interstate 80 runs north-south through the refinery dividing the eastern portion of the refinery.

The Shell Oil refinery is located on about 880 acres in Contra Costa County, partially within the City of Martinez. The main portion of the refinery is bordered by Marina Vista Boulevard to the north, Interstate 680 to the east, Pacheco Boulevard to the South, Merrithew Avenue to the west, and the Shell marine terminal to the northwest. Land use north of the refinery is a combination of industrial and open space; northeast of the refinery is an environmental conservation district; east is residential land use with some light industrial areas; land use south and southwest of the refinery is residential. The Martinez reservoir is also located to the south of the refinery.

The Tesoro refinery is located in Contra Costa County, within the community of Avon. The refinery is located south of Suisun Bay and is bordered by Waterfront Road to the north and Solano Way to the west. Land use south and east of the refinery is a combination of industrial and open space. The Tesoro refinery is located east of the Shell Martinez refinery. The Mallard reservoir is also located southeast of the refinery.

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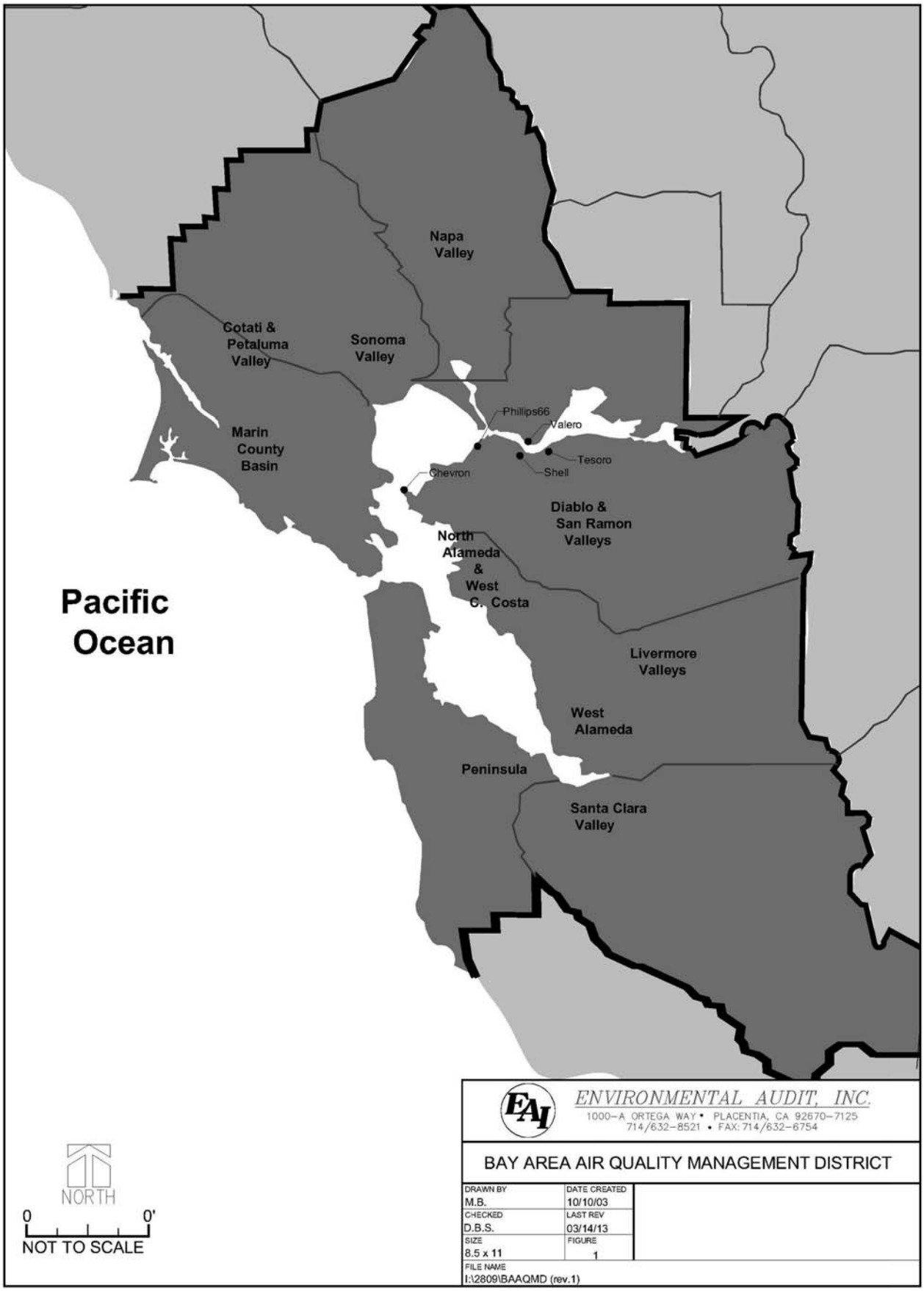
Napa Valley
Cotati & Petaluma Valley
Sonoma Valley
Marin County Basin
Phillips66
Valero
Tesoro
Shell
Chevron
Diablo & San Ramon Valleys
North Alameda & West C. Costa
Pacific Ocean
Livermore Valleys
West Alameda
Peninsula
Santa Clara Valley
NORTH
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NOT TO SCALE
ENVIRONMENTAL AUDIT, INC.
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/632-8521 • FAX: 714/632-6754
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
DRAWN BY M.B.
DATE CREATED 10/10/03
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LAST REV 03/14/13
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FIGURE 1
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Chapter 3

Environmental Checklist

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Bay Area Air Quality Management District (BAAQMD) Proposed Amendments to Regulation 9, Rule 10.
Lead Agency Name:	Bay Area Air Quality Management District
Lead Agency Address:	939 Ellis Street San Francisco, California 94109
Contact Person:	Julian Elliot
Contact Phone Number:	415-749-4705
Project Location:	This rule amendment applies to the area within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties.
Project Sponsor's Name:	Bay Area Air Quality Management District
Project Sponsor's Address:	939 Ellis Street San Francisco, California 94109
General Plan Designation:	Rule 9-10 applies to boilers, steam generators, and process heaters that are used in petroleum refineries throughout the District, which are primarily located in industrial areas.
Zoning:	Rule 9-10 applies to boilers, steam generators, and process heaters at petroleum refineries throughout the District, which are primarily located in industrial areas.
Description of Project:	See “Background” in Chapter 2.
Surrounding Land Uses and Setting:	See “Affected Area” in Chapter 2.
Other Public Agencies Whose Approval is Required:	None

Environmental Factors Potentially Affected:

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☒ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Date:

Printed Name: Date:

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This checklist is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

d) The significance criteria or threshold, if any, used to evaluate each question; and

e) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
I.	**AESTHETICS.**				
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses.

The proposed rule amendment focuses on NOx emissions from pre-1994 process heaters in petroleum refineries. The rule amendment for these heaters will affect five refineries currently operating within the Bay Area. The refineries are located in industrial areas and scenic highways or corridors are generally not located in the vicinity of these refineries.

Regulatory Background

Visual resources are generally protected by the City and/or County General Plans through land use and zoning requirements.

Impacts

I a-d. Regulation 9-10 limits emissions of NOx from existing boilers, steam generators, and process heaters (heaters) in petroleum refineries in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The proposed amendments create a voluntary alternative standard to incentivize modernization of existing heaters, which will result in lower levels of NOx emissions and allow refineries to move toward compliance with California's Global Warming Solutions Act (AB 32) requirements. The amendments would also require increased use of continuous emissions monitoring systems (CEMS) to measure NOx output. The proposed amendments are not expected to require the construction of any major new structures that would be visible to areas outside of existing refinery boundaries, with the possible exception of CEMS installations on existing stacks, and are not expected to result in any adverse aesthetic impacts. Any refinery modifications are expected to be minor, e.g. installation of CEMS, which would be located on existing stacks within the refinery. The heaters affected by the proposed rule amendments are located within existing refineries within the Bay Area, which are not typically located in areas with scenic vistas. If refineries chose to pursue the alternative standard, the alternative standard would not require retro-fitting of existing heaters with additional control equipment. The refinery facilities are all industrial facilities located within industrial areas. Therefore, the installation of CEMS within an industrial area would not be expected to generate significant adverse impacts on aesthetics. The proposed amendment to Regulation 9-10 would also not generate any new light or glare impacts, as no additional lighting would be required.

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of the amendment to Regulation 9-10.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact

II. AGRICULTURE and FOREST RESOURCES.

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.--Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
a)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				
b)	Result in the loss of forest land or conversion of forest land to non-forest use?				
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Some of these agricultural lands are under Williamson Act contracts.

The proposed amendment will affect pre-1994 boilers, steam generators, and process heaters at existing refineries within the Bay Area. Agricultural or forest resources are currently not located within the confines of the refineries located within the Bay Area.

Regulatory Background

Agricultural and forest resources are generally protected by the City and/or County General Plans, Community Plans through land use and zoning requirements, as well as any applicable specific plans, ordinances, local coastal plans, and redevelopment plans.

Discussion of Impacts

II a-e. Regulation 9-10 limits emissions of NOx from existing heaters in petroleum refineries in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The proposed amendments create a voluntary alternative standard to incentivize modernization of existing heaters, which will result in lower levels of NOx emissions and allow refineries to move toward compliance with California's Global Warming Solutions Act (AB 32) requirements. The amendments would also require increased use of CEMS to measure NOx output. The refineries are located in industrial areas where no agricultural or forest resources are located. Any refinery modifications would be made within the confines of the existing refinery facilities. No development outside of existing refinery facilities would be required by the proposed amendment to Regulation 9-10; therefore, no impacts to agricultural or forestland resources are expected.

Based upon these considerations, no significant adverse impacts to agricultural and forest resources are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY.				
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☐	☑
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑

Setting

Meteorological Conditions

The summer climate of the West Coast is dominated by a semi-permanent high centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds are often moderate and air pollution potential is very low.

During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include tule fog.

Topography

The San Francisco Bay Area is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. Elevations of 1,500 feet are common in the higher terrain of this area. Normal wind flow over the area becomes distorted in the lower elevations, especially when the wind velocity is not strong. This distortion is reduced when stronger winds and unstable air masses move over the areas. The distortion is greatest when low level inversions are present with the surface air, beneath the inversion, flowing independently of the air above the inversion.

Winds

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream producing southwest winds at Berkeley and northwest winds at San Jose; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or San Bruno Gap.

In winter, the Bay Area experiences periods of storminess and moderate-to-strong winds and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon and otherwise light and variable winds.

Temperature

In summer, the distribution of temperature near the surface over the Bay Area is determined in large part by the effect of the differential heating between land and water surfaces. This process produces a large-scale gradient between the coast and the Central Valley as well as small-scale local gradients along the shorelines of the ocean and bays. The winter mean temperature high and lows reverse the summer relationship; daytime variations are small while mean minimum nighttime temperatures show large differences and strong gradients. The moderating effect of the ocean influences warmer minimums along the coast and penetrating the Bay. The coldest temperatures are in the sheltered valleys, implying strong radiation inversions and very limited vertical diffusion.

Inversions

A primary factor in air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area, the frequent occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution. A temperature inversion may be described as a layer or layers of warmer air over cooler air.

Precipitation

The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in November to April period; and between June and September, normal rainfall is typically less than 0.10 inches. Annual precipitation amounts show greater differences in short distances. Annual totals exceed 40 inches in the mountains and are less than 15 inches in the sheltered valleys.

Pollution Potential

The Bay Area is subject to a combination of physiographic and climatic factors which result in a low potential for pollutant buildups near the coast and a high potential in sheltered inland valleys. In summer, areas with high average maximum temperature tend to be sheltered inland valleys with abundant sunshine and light winds. Areas with low average maximum temperatures are exposed to the prevailing ocean breeze and experience frequent fog or stratus. Locations with warm summer days have a higher pollution potential than the cooler locations along the coast and bays.

In winter, pollution potential is related to the nighttime minimum temperature. Low minimum temperatures are associated with strong radiation inversions in inland valleys that are protected from the moderating influences of the ocean and bays. Conversely, coastal locations experience higher average nighttime temperatures, weaker inversions, stronger breezes and consequently less air pollution potential.

Air Quality

Criteria Pollutants

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitored levels of various criteria pollutants at 24 monitoring stations in 2012.

The 2012 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. The data indicate that the air quality at all monitoring stations were below the state standard and federal ambient air quality standards for CO and SO_2. The federal 8-hour ozone standard was exceeded on 4 days in the District in 2012, while the state 8-hour standard was exceeded on 8 days. The State 1-hour ozone standard was exceeded on 3 days in 2012 in the District. The ozone standards are most frequently exceeded in the Eastern District (Bethel Island, 4 days in excess of the California 8-hr standard; Concord, 3 days; Fairfield, 2 days; Livermore, 4 days) and in the Santa Clara Valley (Gilroy, 2 days; Los Gatos, 1 day; and San Martin, 4 days) (see Table 3-2).

Air quality conditions in the San Francisco Bay Area have improved since the District was created in 1955. Ambient concentrations of air pollutants and the number of days on which the region exceeds air quality standards have fallen dramatically (see Table 3-3). The District is in attainment of the State and federal ambient air quality standards for CO, NO_2, and SO_2. The District is not considered to be in attainment with the ozone standards and State PM_{10} and $PM_{2.5}$ standards.

TABLE 3-1

Federal and State Ambient Air Quality Standards

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.03 ppm, annual avg.> 0.18 ppm, 1-hr avg. >	0.053 ppm, ann. avg.> 0.10 ppm, 1-hr avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.5 ppm, 3-hr. avg.> 0.075 ppm, 1-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM_{10})	20 µg/m3, annual arithmetic mean > 50 µg/m3, 24-hr average>	150 µg/m3, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m3, annual arithmetic mean>	12 µg/m3, annual arithmetic mean> 35 µg/m3, 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m3, 24-hr avg. >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 µg/m3, 30-day avg. >=	1.5 µg/m3, calendar quarter> 0.15 µg/m3, 3-mo. avg. >	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

TABLE 3-2
Bay Area Air Pollution Summary - 2012

MONITORING STATIONS	Ozone						Carbon Monoxide			Nitrogen Dioxide				Sulfur Dioxide				PM_{10}				$PM_{2.5}$				
	Max 1-hr	Cal 1-hr days	Max 8-hr	Nat 8-hr days	Cal 8-hr days	3-yr Avg	Max 1-hr	Max 8-hr	Nat/ Cal days	Max 1-hr	Ann Avg	Nat 1-hr days	Cal 1-hr days	Max 1-hr	Max 24-hr	Nat 1-hr days	Cal 24-hr days	Ann Avg	Max 24-hr	Nat 24-hr days	Cal 24-hr days	Max 24-hr	Nat 24-hr days	3-yr Avg	Ann Avg	3-yr Avg
North Counties	(ppb)						(ppm)			(ppb)				(ppb)				($\mu g/m^3$)				($\mu g/m^3$)				
Napa*	81	0	64	0	0	63	2.2	1.5	0	50	8	0	0	-	-	-	-	16.1	38	0	0	*	*	*	*	*
San Rafael*	76	0	57	0	0	51	2.3	1.1	0	52	11	0	0	-	-	-	-	13.2	37	0	0	26.5	0	*	8.0	*
Santa Rosa	64	0	51	0	0	47	2.2	1.5	0	43	9	0	0	-	-	-	-	-	-	-	-	25.7	0	22	8.2	8.0
Vallejo	85	0	62	0	0	59	2.8	2.2	0	52	9	0	0	14.2	2.5	0	0	-	-	-	-	36.8	1	25	9.0	8.8
Coast/Central Bay																										
Oakland	72	0	45	0	0	44	2.9	1.6	0	65	12	0	0	-	-	-	-	-	-	-	-	33.6	0	24	9.5	9.1
Oakland-West*	61	0	48	0	0	*	2.8	2.4	0	53	15	0	0	68.1	8.0	0	0	-	-	-	-	*	*	*	*	*
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	-	13.3	2.3	0	0	-	-	-	-	-	-	-	-	-
San Francisco	69	0	48	0	0	47	2.0	1.2	0	124	13	1	0	-	-	-	-	17.4	51	0	1	35.7	1	24	8.2	9.4
San Pablo*	86	0	59	0	0	51	1.6	0.9	0	55	9	0	0	14.8	6.4	0	0	15.6	47	0	0	*	*	*	*	*
Eastern District																										
Bethel Island	98	1	87	2	4	73	1.5	0.9	0	32	7	0	0	19.7	2.5	0	0	14.1	52	0	1	-	-	-	-	-
Concord	93	0	85	2	3	72	1.2	0.8	0	40	8	0	0	8.7	2.5	0	0	12.6	35	0	0	32.2	0	24	6.5	7.2
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	-	19.2	5.9	0	0	-	-	-	-	-	-	-	-	-
Fairfield	88	0	77	1	2	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Livermore	102	2	90	3	4	73	-	-	-	53	11	0	0	-	-	-	-	-	-	-	-	31.1	0	25	6.5	7.3
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	-	16.5	4.1	0	0	-	-	-	-	-	-	-	-	-
Patterson Pass	-	-	-	-	-	-	-	-	-	45	4	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
San Ramon*	99	1	86	3	3	*	-	-	-	44	8	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
South Central Bay																										
Hayward*	94	0	65	0	0	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redwood City	63	0	54	0	0	53	4.0	1.8	0	60	11	0	0	-	-	-	-	-	-	-	-	33.3	0	23	8.5	8.5
Santa Clara Valley																										
Cupertino*	83	0	66	0	0	*	1.9	0.8	0	45	8	0	0	28.2	3.0	0	0	13.5	42	0	0	-	-	-	-	-
Gilroy	92	0	73	0	2	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	0	20	7.4	7.9
Los Gatos	85	0	72	0	1	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
San Jose	101	1	62	0	0	61	2.6	1.9	0	67	13	0	0	7.9	2.8	0	0	18.8	60	0	1	38.4	2	28	9.1	9.3
San Martin	92	0	77	1	4	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Days over Standard		3		4	8				0			1	0			0	0			0	2		3			

*Due to the opening dates or temporary closures at various monitoring stations, 3-yr average ozone and/or PM2.5 data are not available
(ppb) = parts per billion, (ppm) = parts per million, ($\mu g/m^3$) = micrograms per cubic meter.

TABLE 3-3

Bay Area Air Quality Summary
Days over Standards

YEAR	OZONE			CARBON MONOXIDE				NITROGEN DIOXIDE		SULFUR DIOXIDE		PM_{10}		$PM_{2.5}$
	8-Hr*	1-Hr	8-Hr	1-Hr		8-Hr		1-Hr		24-Hr		24-Hr		24-Hr***
	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat**	Cal	Nat**	Cal	Nat	Cal	Nat
2003	7	19	-	0	0	0	0	-	0	-	0	0	6	0
2004	0	7	-	0	0	0	0	-	0	-	0	0	7	1
2005	1	9	9	0	0	0	0	-	0	-	0	0	6	0
2006	12	18	22	0	0	0	0	-	0	-	0	0	15	10
2007	1	4	9	0	0	0	0	-	0	-	0	0	4	14
2008	12	9	20	0	0	0	0	-	0	-	0	0	5	12
2009	8	11	13	0	0	0	0	-	0	-	0	0	1	11
2010	9	8	11	0	0	0	0	0	0	0	0	0	2	6
2011	4	5	10	0	0	0	0	0	0	0	0	0	3	8
2012	4	3	8	0	0	0	0	1	0	0	0	0	2	3

* In 2008, the U.S. EPA revised the 8-hour ozone standard from 0.08 ppm to 0.075 ppm. Stating in 2008, ozone exceedance days reflect the new standard.

** In 2010, the U.S. EPA implemented a new national 1-hour nitrogen dioxide standard of 100 ppb and a new national 1-hour sulfur dioxide standard of 75 ppb.

*** In 2006, the U.S. EPA revised the national 24-hour PM2.5 standard from 65 µg/m3 to 35 µg/m3. Starting in 2006, PM2.5 exceedance days reflect the new standard.

Toxic Air Pollutants

The BAAQMD maintains a database that contains information concerning emissions of TACs from permitted stationary sources in the Bay Area. This inventory, and a similar inventory for mobile and area sources compiled by CARB, is used to plan strategies to reduce public exposure to TACs. The detailed concentrations of various TACs are reported in the BAAQMD, Toxic Air Contaminant Control Program, 2003 Annual Report (BAAQMD, 2007) and summarized in Table 3-4. The 2003 TAC data show decreasing concentrations of many TACs in the Bay Area. The most dramatic emission reductions in recent years have been for certain chlorinated compounds that are used as solvents including 1,1,1-trichloroethane, methylene chloride, and perchloroethylene. Table 3-4 contains a summary of ambient air toxics listed by compound.

TABLE 3-4

Summary of BAAQMD Ambient Air Toxics Monitoring Data[1]

Pollutant	Units	Average MDL [1]	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value [2] [3]
1,3-Butadiene	ppb	5.00E-02	87%	2.60E-01	0.00E+00	3.51E-02
Acetaldehyde	ppb	1.00E-01	1%	2.66E+00	1.00E-01	6.47E-01
Acetone	ppb	3.00E-01	0%	4.30E+01	4.00E-01	2.53E+00
Acetonitrile	ppb	3.00E-01	29%	1.25E+00	0.00E+00	3.88E-01
Antimony	ng/m^3	3.00E+00	98%	3.10E+00	1.50E+00	1.53E+00
Arsenic	ng/m^3	1.50E+00	98%	9.30E+00	7.50E-01	8.70E-01
Benzene	ppb	5.00E-02	1%	1.11E+00	0.00E+00	2.04E-01
Bromomethane	ppb	3.00E-02	92%	7.00E-02	1.50E-02	1.79E-02
Cadmium	ng/m^3	1.50E+00	96%	2.80E+00	7.50E-01	8.14E-01
Carbon Tetrachloride	ppb	1.00E-02	0%	1.50E-01	1.00E-02	9.81E-02
Chlorine	$\mu g/m^3$	7.18E-03	12%	1.87E+00	0.00E+00	2.54E-01
Chloroform	ppb	2.00E-02	66%	5.90E-01	0.00E+00	1.71E-02
Chromium	ng/m^3	3.00E+00	54%	8.50E+01	1.50E+00	4.76E+00
Cis-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Cobalt	ng/m^3	1.50E+00	98%	4.10E+00	7.50E-01	7.90E-01
Copper	ng/m^3	1.50E+00	0%	4.00E+01	3.00E+00	1.38E+01
Dichloromethane	ppb	1.00E-01	48%	8.67E+00	0.00E+00	1.65E-01
Ethyl Alcohol	ppb	6.60E-01	4%	9.00E+01	0.00E+00	2.48E+01
Ethylbenzene	ppb	2.00E-01	48%	1.01E+00	0.00E+00	9.66E-02
Ethylene Dibromide	ppb	1.00E-02	100%	0.00E+00	0.00E+00	5.00E-03
Ethylene Dichloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Formaldehyde	ppb	1.00E-01	0%	4.60E+00	2.72E-01	1.07E+00
Lead	ng/m^3	1.50E+00	4%	2.50E+01	7.50E-01	5.94E+00
M/P Xylene	ppb	2.00E-01	11%	3.31E+00	0.00E+00	3.55E-01
Magnesium	$\mu g/m^3$	1.33E-02	47%	2.02E-01	0.00E+00	3.30E-02
Manganese	ng/m^3	1.50E+00	8%	1.70E+02	7.50E-01	1.71E+01
Mercury	$\mu g/m^3$	6.08E-03	98%	1.04E-02	0.00E+00	3.12E-03
Methyl Chloroform	ppb	2.00E-02	89%	1.16E+00	0.00E+00	2.60E-02
Methyl Ethyl Ketone	ppb	1.00E-01	31%	1.71E+00	0.00E+00	1.81E-01
Naphthalene	ng/m^3	6.35E-01	0%	2.09E+02	1.74E+01	6.97E+01
Nickel	ng/m^3	9.00E+00	67%	1.00E+02	4.50E+00	1.05E+01
O-Xylene	ppb	1.00E-01	29%	1.14E+00	0.00E+00	1.27E-01

TABLE 3-4 (Concluded)

Pollutant	Units	Average MDL (1)	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value (2) (3)
PAHs(4)	ng/m^3					1.79E-01
Selenium	ng/m^3	1.50E+00	84%	5.40E+01	7.50E-01	1.74E+00
Styrene	ppb	1.00E-01	98%	8.40E-01	5.00E-02	6.01E-02
Tetrachloroethylene	ppb	1.00E-02	29%	2.00E+00	0.00E+00	2.26E-02
Toluene	ppb	2.00E-01	2%	3.38E+00	4.00E-02	6.54E-01
Trans-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Trichloroethylene	ppb	2.00E-02	87%	7.70E-01	0.00E+00	1.40E-02
Trichlorofluoromethane	ppb	1.00E-02	0%	7.40E-01	1.60E-01	2.58E-01
Vanadium	ng/m^3	1.50E+00	34%	6.10E+01	7.50E-01	3.79E+00
Vinyl Chloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Zinc	ng/m^3	3.00E+00	0%	5.90E+01	8.00E+00	2.45E+01

(1) Source: BAAQMD 2008 Toxic Air Contaminant Monitoring Data. Data are a summary of data from all monitoring stations within the District.
(2) Some samples (especially metals) have individual MDLs for each sample. An average of these MDLs was used to determine 1/2 MDL for the Average Sample Value.
(3) If an individual sample value was less than the MDL (Method Detection Limit), then 1/2 MDL was used to determine the Average Sample Value.
(4) These substances are PAH-derivatives that have OEHHA-developed Potency Equivalency Factors (PEFs). PAHs should be evaluated as benzo(a)pyrene equivalents. This evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding PEFs listed below. The sum of these products is the benzo(a)pyrene-equivalent level.

Regulatory Background

Criteria Pollutants

At the federal level, the Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and particulate matter in non-attainment areas. The amendments set attainment deadlines based on the severity of problems. At the state level, CARB has traditionally established state ambient air quality standards, maintained oversight authority in air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. At a local level, California's air districts, including the BAAQMD, are responsible for overseeing stationary source emissions, approving permits, maintaining emission inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

The BAAQMD is governed by a 22-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

Toxic Air Contaminants

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific NESHAPs were promulgated under Section 112 of the CAA for certain sources of radionuclides and Hazardous Air Pollutants (HAPs).

Title III of the 1990 CAA amendments requires U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for major sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were to be promulgated by the year 2000. Specific incremental progress in establishing standards were to be made by the years 1992 (at least 40 source categories), 1994 (25 percent of the listed categories), 1997 (50 percent of remaining listed categories), and 2000 (remaining balance). The 1992 requirement was met; however, many of the four-year standards were not promulgated as scheduled. Promulgation of those standards has been rescheduled based on court ordered deadlines, or the aim to satisfy all Section 112 requirements in a timely manner.

Many of the sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed three regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

Control of TACs Under the TAC Identification and Control Program: California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

Control of TACs Under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification.

Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

Targeted Control of TACs Under the Community Air Risk Evaluation Program: In 2004, BAAQMD established the Community Air Risk Evaluation (CARE) program to identify locations with high emissions of toxic air contaminants (TAC) and high exposures of sensitive populations to TAC and to use this information to help establish policies to guide mitigation strategies that obtain the greatest health benefit from TAC emission reductions. For example, BAAQMD will use information derived from the CARE program to develop and implement targeted risk reduction programs, including grant and incentive programs, community outreach efforts, collaboration with other governmental agencies, model ordinances, new regulations for stationary sources and indirect sources, and advocacy for additional legislation.

Discussion of Impacts

III a, b. The 2010 Clean Air Plan is the most recently adopted air quality plan for the Bay Area. Regulation 9-10 was adopted on January 5, 1994, amended on July 17, 2002, and amended again on December 15, 2010. The objective of the proposed rule amendments is to provide an alternative compliance strategy for pre-1994 refinery heaters. The alternative would set a mass emission limit for heaters subject to the rule for any refinery that selected this alternative. The proposed rule amendments would also allow refineries to use emission reduction credits to account for expiring interchangeable emission reduction credits (IERC) or heater replacement or modification for which an Authority to Construct (A/C) had been issued to set the mass emission limit for that refinery. As the proposed amendments would provide an alternative compliance strategy for pre-1994 heaters, it is expected that additional emission reductions could be achieved because the alternative would incentivize modernization or replacement of older heaters. When older heaters are modernized or replaced, they would be subject to District new source review requirements under District Regulation 2, Rule 2. The replacement of pre-1994 heaters with newer heaters results in large NOx emission reductions (generally about 50 percent) as Best Available Control Technology (BACT) applies to new heaters and BACT requirements have become stricter with time (currently 5 ppm NOx for 50 mmBTU/hr heaters or greater). New heaters also can incorporate the latest energy-efficient designs, allowing refineries to make progress towards meeting AB 32 requirements. Therefore, the proposed amendments to Regulation 9-10 do not allow an increase in NOx emissions nor would do they conflict with an existing air quality plan. By providing another alternative compliance measure and potentially encouraging additional NOx emission reductions, the proposed amendments are expected to provide beneficial impacts associated with reduced NOx emissions and related ozone concentrations in the Bay Area. Therefore, the proposed rule amendments are considered to be compatible with the 2010 Clean Air Plan and are not expected to result in an increase in air emissions or violate or contribution to the violation of any air quality standard.

III c. CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project's incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). The overall impact of the proposed amendments to Rule 9-10 is a decrease in NOx emissions and an associated decrease in ozone concentrations. Therefore, the cumulative air quality impacts of the proposed rule amendments are expected to be beneficial.

III d. The proposed amendments would provide an alternative method for pre-1994 heaters to comply with Regulation 9-10 which is ultimately expected to result in reduced NOx emissions from refineries. Reduced NOx emissions from refineries would reduce exposure to NOx and ozone in the surrounding

communities. Therefore, the proposed amendments would not expose sensitive receptors to substantial pollutant concentrations.

The amendments to Regulation 9-10 could allow emission reduction credits to be used to set the mass emission limit at a refinery in limited circumstances. The use of credits, however, will not allow any increase in emissions above the current level. They are only usable to offset foreseeable circumstances (where IERC have been used to comply, but are expiring, or where an A/C has been issued that would require further reductions in other heaters) where the current rule would require reductions. Sources of air pollution that are shut down – either existing sources that are taken out of service to make way for the new/modified source, or past sources that were taken out of service some time ago and used to generate a "banked" credit. Since the use of offsets represents a reduction in emissions from another source, the use of offsets is also not expected to result in increased exposure to sensitive receptors. It should also be noted that CEQA applies to individual projects at the time of permitting and the potential for significant impacts would also be evaluated at the time of permitting. Should projects be proposed that could potentially generate significant impacts or are unusual in nature, a separate project-specific CEQA analysis would be expected to be applied.

III e. The proposed project is not expected to result in an increase in odors. The proposed amendments to Regulation 9-10 would provide an additional strategy for refineries to use to comply with Regulation 9-10, but is not expected to result in any substantial refinery modifications or result in an increase use or generation of odor-causing substances. Therefore, no increase in odors is expected due to implementation of the proposed amendments.

Based upon these considerations, no significant adverse air quality impacts are expected from the implementation of the proposed rule amendments. In fact, the proposed rule amendments are expected to provide beneficial air quality impacts by potential reducing NOx emissions and subsequent formation of ozone.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. A wide variety of biological resources are located within the Bay Area.

The areas affected by the proposed rule amendment are located in the Bay Area-Delta Bioregion (as defined by the State's Natural Communities Conservation Program). This Bioregion is comprised of a variety of natural communities, which range from salt marshes to chaparral to oak woodland. The areas affected by the proposed rule amendment are located within the boundaries of the five existing refineries within the Bay Area. The affected areas have been graded to develop various petroleum refining structures. Native vegetation, other than landscape vegetation, has generally been removed from refinery areas to minimize safety and fire hazards. Any new development would fall under compliance with the City or County General Plans.

Regulatory Background

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service. The U.S Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Wildlife administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

Discussion of Impacts

IV a – f. No impacts on biological resources are anticipated from the proposed rule amendment which would apply to existing refinery facilities. Existing heaters affected by the proposed amendment are located within the operating portions of refineries, which do not typically include sensitive biological species. The refineries have been graded and developed, and biological resources, with the exception of landscape species, have been removed. Any construction activities associated with the proposed amendment to Regulation 9-10 will be limited to within the boundaries of existing refineries and no development outside of existing facilities is expected.

Based upon these considerations, no impacts to biological resources are expected from the implementation of the proposed amendments to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☑
c)	Directly of indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural and open space uses. Cultural resources are defined as buildings, sites, structures, or objects which might have historical architectural, archaeological, cultural, or scientific importance.

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for millennia given their abundant combination of littoral and oak woodland resources.

The pre-1994 heaters affected by the proposed rule amendment are within the five refineries located in Contra Costa and Solano counties. These facilities have already been graded to develop petroleum refining facilities and are typically surrounded by other industrial uses. Cultural resources are generally not located within these areas.

Regulatory Background

The State CEQA Guidelines define a significant cultural resource as a "resource listed or eligible for listing on the California Register of Historical Resources" (Public Resources Code Section 5024.1). A project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource (State CEQA Guidelines Section 15064.5(b)). A substantial adverse change in the significance of a historical resource would result from an action that would demolish or adversely alter the physical characteristics of the historical resource that convey its historical significance and that qualify the resource for inclusion in the California Register of Historical Resources or a local register or survey that meets the requirements of Public Resources Code Sections 50020.1(k) and 5024.1(g).

Discussion of Impacts

V a – d. No impacts on cultural resources are anticipated from the proposed rule amendment that would apply to pre-1994 heaters. The pre-1994 heaters affected by the proposed rule amendment already exist and are located within the confines of existing refinery facilities. Any modifications to existing equipment is expected to be minor (e.g., CEMS) and would occur within the boundaries of existing refineries. The existing refinery areas have been graded and developed. No new construction would be required outside of the existing facility boundaries due to the adoption of the proposed amendment to Regulation 9-10. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed amendment to Regulation 9-10.

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the implementation of the proposed amendment to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	**GEOLOGY and SOILS.**				
	Would the project:				
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a know fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
ii)	Strong seismic ground shaking?	☐	☐	☐	☑
iii)	Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv)	Landslides?	☐	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The facilities affected by the proposed rule amendments are located primarily in industrial areas within the Bay Area.

The affected refineries with pre-1994 fired heaters are located in the natural region of California known as the Coast Ranges geomorphic province. The province is characterized by a series of northwest trending ridges and valleys controlled by tectonic folding and faulting, examples of which include the Suisun Bay, East Bay Hills, Briones Hills, Vaca Mountains, Napa Valley, and Diablo Ranges.

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone inter-fingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits, (including Bay Mud) underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to inherent low strength, compressibility and saturated conditions. Landslides in the region occur in weak, easily weathered bedrock on relatively steep slopes.

The San Francisco Bay Area is a seismically active region, which is situated on a plate boundary marked by the San Andreas Fault System. Several northwest trending active and potentially active faults are included with this fault system. Under the Alquist-Priolo Earthquake Fault Zoning Act, Earthquake Fault Zones were established by the California Division of Mines and Geology along “active” faults, or faults along which surface rupture occurred in Holocene time (the last 11,000 years). In the Bay area, these faults include the San Andreas, Hayward, Rodgers Creek-Healdsburg, Concord-Green Valley, Greenville-Marsh Creek, Seal Cove/San Gregorio and West Napa faults. Other smaller faults in the region classified as potentially active include the Southampton and Franklin faults.

Ground movement intensity during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geological material. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill. Earthquake ground shaking may have secondary effects on certain foundation materials, including liquefaction, seismically induced settlement, and lateral spreading.

Regulatory Background

Construction is regulated by the local City or County building codes that provide requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc., which are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are generally required.

The City or County General Plan includes the Seismic Safety Element. The Element serves primarily to identify seismic hazards and their location in order that they may be taken into account in the planning of future development. The California Building Code is the principle mechanism for protection against and relief from the danger of earthquakes and related events.

In addition, the Seismic Hazard Zone Mapping Act (Public Resources Code §§2690 – 2699.6) was passed by the California legislature in 1990 following the Loma Prieta earthquake. The Act required that the California Division of Mines and Geology (DMG) develop maps that identify the areas of the state that require site specific investigation for earthquake-triggered landslides and/or potential liquefaction prior to permitting most urban developments. The act directs cities, counties, and state agencies to use the maps in their land use planning and permitting processes.

Local governments are responsible for implementing the requirements of the Seismic Hazards Mapping Act. The maps and guidelines are tools for local governments to use in establishing their land use management policies and in developing ordinances and review procedures that will reduce losses from ground failure during future earthquakes.

Discussion of Impacts

VI a. The heaters affected by the proposed rule amendment already exist and are located within the confines of the five existing refinery facilities in the Bay Area. Any new construction activities required as a result of adopting the proposed amendment to Regulation 9-10, are expected to be minimal, e.g., adding CEMS to existing heaters. The local cities and counties are responsible for assuring that new construction complies with the California Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The California Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The California Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The California Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the California Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

Any new refinery development would be required to obtain building permits, as applicable, for new structures at any site. The issuance of building permits from the local agency will assure compliance with the California Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since no new major development is expected for implementation of the proposed amendment to Regulation 9-10.

VI b. No new significant construction activities would be required due to the adoption of Regulation 9-10. Heaters affected by the proposed rule amendment already exist and are located within the confines of existing petroleum refining facilities. Any upgrades to existing equipment would be installed within the confines of the existing boundaries in similar locations. Therefore, the proposed amendment is not

expected to result in substantial soil erosion or the loss of topsoil as no major construction activities would be required.

VI c – e. The heaters affected by the proposed rule amendment already exist and are located within the confines of existing refinery facilities so no major construction activities are expected. Since the petroleum refining facilities already exist, no construction activities are expected to occur on a geologic unit or soil that is unstable or that would become unstable, or potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Likewise, no structure would be constructed on expansive soil, as defined in Table 18-1-B of the California Uniform Building Code, creating substantial risks to life or property. Compliance with the California Building Code would minimize the impacts associated with existing geological hazards. Construction would not affect soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater, as the proposed rule amendments have no impact on wastewater treatment/disposal systems. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed amendment to Regulation 9-10.

Based upon these considerations, no significant geology and soils impacts are expected from the implementation of the proposed rule amendment.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☑
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs identified by the Kyoto Protocol are (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), are believed to have contributed to the increase in atmospheric levels of GHGs. Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (CARB, 2007 and CARB, 2009). The emission inventory in Table 3-5 focuses on GHG emissions due to human activities only, and compiles estimated emissions from industrial, commercial, transportation, domestic, forestry, and agriculture activities in the San Francisco Bay Area region of California. The GHG emission inventory in Table 3-5 reports direct emissions generated from sources within the Bay Area and estimates future GHG emissions.

TABLE 3-5

Bay Area Greenhouse Gas Emission Inventory Projections
(million metric tons CO_2-Equivalent)

SOURCE CATEGORY Year	2005	2009	2012	2015	2020
INDUSTRIAL/COMMERCIAL					
Oil Refineries					
Refining Processes	3.4	3.5	3.6	3.7	3.9
Refinery Make Gas Combustion	4.7	4.9	5.0	5.2	5.4
Natural Gas and Other Gases Combustion	4.8	5.0	5.1	5.3	5.5
Liquid Fuel Combustion	0.1	0.1	0.1	0.1	0.1
Solid Fuel Combustion	1.0	1.0	1.1	1.1	1.1
Waste Management					
Landfill Combustion Sources	0.0	0.0	0.0	0.0	0.0
Landfill Fugitive Sources	1.2	1.2	1.2	1.2	1.2
Composting/POTWs	0.4	0.4	0.4	0.4	0.4
Other Industrial/ Commercial					
Cement Plants	0.9	0.9	0.9	0.9	1.0
Commercial Cooking	0.1	0.1	0.1	0.1	0.2
ODS Substitutes/Nat. Gas Distrib./Other	3.6	5.2	6.3	7.5	9.4
Reciprocating Engines	0.6	0.6	0.6	0.7	0.7
Turbines	0.4	0.4	0.4	0.4	0.4
Natural Gas- Major Combustion Sources	1.6	2.5	2.6	2.7	2.8
Natural Gas- Minor Combustion Sources	8.8	9.2	9.5	9.9	10.4
Coke Coal	1.0	1.0	1.1	1.1	1.2
Other Fuels Combustion	0.3	0.4	0.4	0.4	0.4
Subtotal	32.8	36.3	38.4	40.6	44.2
RESIDENTIAL FUEL USAGE					
Natural Gas	6.4	6.6	6.8	6.9	7.2
LPgas/Liquid Fuel	0.2	0.2	0.2	0.2	0.2
Solid Fuel	0.1	0.2	0.2	0.2	0.2
Subtotal	6.7	6.9	7.1	7.2	7.5
ELECTRICITY/ CO-GENERATION					
Co-Generation	5.5	5.5	5.7	6.0	6.4
Electricity Generation	2.8	3.1	3.2	3.3	3.5
Electricity Imports	6.8	7.3	7.6	7.9	8.3
Subtotal	15.1	15.8	16.5	17.2	18.3
OFF-ROAD EQUIPMENT					
Lawn and Garden Equipment	0.1	0.1	0.1	0.1	0.1
Construction Equipment	1.7	1.9	1.9	2.0	2.2
Industrial Equipment	0.7	0.8	0.8	0.9	1.0
Light Commercial Equipment	0.2	0.2	0.3	0.3	0.3
Subtotal	2.8	3.0	3.2	3.3	3.6
TRANSPORTATION					
Off-Road					
Locomotives	0.1	0.1	0.1	0.1	0.1
Ships	0.7	0.8	0.8	0.9	1.0
Boats	0.6	0.6	0.5	0.5	0.6

TABLE 3-5 (concluded)

SOURCE CATEGORY Year	2005	2009	2012	2015	2020
Commercial Aircraft	1.8	2.0	2.1	2.3	2.6
General Aviation	0.2	0.2	0.2	0.3	0.3
Military Aircraft	0.5	0.5	0.5	0.5	0.5
On-Road					
Passenger Cars/Trucks up to 10,000 lbs	26.6	27.1	27.9	29.0	30.9
Medium/Heavy Duty Trucks > 10,000 lbs	3.3	3.3	3.4	3.5	3.7
Urban, School and Other Buses	0.8	0.8	0.8	0.8	0.9
Motor-Homes and Motorcycles	0.2	0.2	0.2	0.2	0.2
Subtotal	34.8	35.6	36.7	38.1	40.7
AGRICULTURE/FARMING					
Agricultural Equipment	0.2	0.2	0.2	0.2	0.2
Animal Waste	0.6	0.6	0.6	0.6	0.6
Soil Management	0.3	0.3	0.3	0.3	0.3
Biomass Burning	0.0	0.0	0.0	0.0	0.0
Subtotal	1.1	1.1	1.1	1.1	1.1
GRAND TOTAL EMISSIONS	**93.4**	**98.7**	**103.0**	**107.5**	**115.4**

Source: BAAQMD, 2009

Regulatory Background

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws over the last decade to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 required CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions, by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG emissions by January 1, 2008;
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions; and,
- Adopt regulations to achieve the maximum technologically feasible and cost-effect reductions of GHGs by January 1, 2011

In October 2011, CARB approved the cap-and-trade regulation designed to reduce California's greenhouse gas emissions under its AB 32 law. The regulation sets a statewide limit on the emissions from sources responsible for 80 percent of California's greenhouse gas emissions. The regulation will cover 360 businesses representing 600 facilities and is divided into two broad phases: an initial phase beginning in 2012 that will include all major industrial sources along with utilities; and, a second phase that starts in 2015 and brings in distributors of transportation fuels, natural gas and other fuels.

Companies are not given a specific limit on their greenhouse gas emissions but must supply a sufficient number of allowances (each covering the equivalent of one ton of carbon dioxide) to cover their annual emissions. Each year, the total number of allowances issued in the state drops, requiring companies to find the most cost-effective and efficient approaches to reducing their emissions. By the end of the program in 2020 there will be a 15 percent reduction in greenhouse gas emissions compared to today, reaching the same level of emissions as the state experienced in 1990, as required under AB 32.

There has also been activity at the federal level on the regulation of GHGs. On October 30, 2009, the U.S. EPA issued the Final Mandatory Report of Greenhouse Gases Rule. The rule requires reporting of GHG emissions from large sources and suppliers (facilities that emit 25,000 metric tons of GHGs per year or more) in the United States, and is intended to collect accurate and timely emissions data in order to make informed policy decisions.

Discussion of Impacts

VII a. and b. Combustion of conventional hydrocarbon fuel results in the release of energy as bonds between carbon and hydrogen are broken and reformed with oxygen to create water vapor and CO_2. CO_2 is not a pollutant that occurs in relatively low concentrations as a by-product of the combustion process; CO_2 is a necessary combustion product of any fuel containing carbon. Therefore, attempts to reduce emissions of greenhouse gases from combustion focus on increasing energy efficiency – consuming less fuel to provide the same useful energy output.

The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutant, significance thresholds are based on daily emissions because attainment or non-attainment is typically based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects to human health, e.g., one-hour and eight-hour. Using the half-life of carbon dioxide, 100 years, for example, the effects of GHGs are longer-term, affecting the global climate over a relatively long time frame. GHGs do not have human health effects like criteria pollutants. Rather, it is the increased accumulation of GHGs in the atmosphere that may result in global climate change. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project. Furthermore, the GHG emissions associated with the proposed amendment would be small relative to total global or even state-wide GHG emissions. Thus, the significance of potential impacts from GHG emissions related to the proposed amendment has been analyzed for long-term operations on a cumulative basis, as discussed below.

Cumulative GHG impacts in the Bay Area are generally evaluated in terms of the air quality management plan that controls overall air emissions within the District. Therefore, the cumulative GHG impacts include the proposed Rule 9-10 along with implementing the control measures in the 2010 Clean Air Plan, the most recent air quality plan approved in the District.

The proposed amendment is expected to directly result in minor changes to refineries, e.g., installation of CEMS. These devices require electricity for operation. The potential increase in electricity could result in an increase in GHG emissions. However, the energy use is very minor compared to the scope of the underlying production process. Therefore, the proposed amendment is not expected to result in a

substantial increase in electricity or generate substantial GHG emissions. In addition, construction activities, although minor in nature, could require construction equipment which could also generate GHG emissions.

The proposed amendment, along with the 2010 CAP as a whole, is expected to promote a net decrease in GHG emissions. The 2010 CAP control measure strategy promotes fuel efficiency and pollution prevention, which reduces greenhouse gas emissions. The existing standard in Regulation 9, Rule 10 requires that NOx emissions from pre-1994 heaters meet a certain standard (0.033 lb NOx/MMBTU), on average, across each refinery. The standard does not limit NOx emissions except in relative to the rate of fuel usage. The standard applies to heaters that were in service before 1994 when the rule was adopted. Heaters installed after that time, or existing heaters modified so as to trigger the District's new source review requirements emit NOx at a much lower rate. However, when a heater subject to the rule (pre-1994) is replaced or modified, the remaining heaters must still meet the Reg. 9-10 standard, even if existing heaters must be retrofitted with additional control equipment to reduce emissions. It has been suggested that this requirement creates a disincentive to replacement or modernization of these pre-1994 heaters. Replacement of modernization of heaters to incorporate energy-efficient designs is one way that refineries can comply with AB 32 requirements to reduce GHG emissions. The alternative standard removes that disincentive without allowing an increase in criteria emissions. Strategies that conserve energy and promote clean technologies reduce greenhouse gas emissions. As shown in Table 3-5, the fuel combustion and the generation of electricity are responsible for a large portion of greenhouse gases produced in California.

Based on the above discussion, implementation of the proposed amendment is not expected to result in a significant increase in GHG emissions, and removes a disincentive to reduce GHG emissions. Based on the above, no significant adverse GHG impacts are expected due to implementation Regulations 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HAZARDS and HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

Setting

The affected petroleum refining facilities handle and process large quantities of flammable, hazardous, and acutely hazardous materials. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

The potential hazards associated with handling such materials are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facilities where they exist. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events.

- **Toxic gas clouds:** Toxic gas clouds are releases of volatile chemicals (e.g., anhydrous ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus exposing individuals. "Worst-case" conditions tend to arise when very low wind speeds coincide with an accidental release, which can allow the chemicals to accumulate rather than disperse.

- **Torch fires (gas and liquefied gas releases), flash fires (liquefied gas releases), pool fires, and vapor cloud explosions (gas and liquefied gas releases):** The rupture of a storage tank or vessel containing a flammable gaseous material (like propane), without immediate ignition, can result in a vapor cloud explosion. The "worst-case" upset would be a release that produces a large aerosol cloud with flammable properties. If the flammable cloud does not ignite after dispersion, the cloud would simply dissipate. If the flammable cloud were to ignite during the release, a flash fire or vapor cloud explosion could occur. If the flammable cloud were to ignite immediately upon release, a torch fire would ensue.

- **Thermal Radiation:** Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.

- **Explosion/Overpressure:** Process vessels containing flammable explosive vapors and potential ignition sources are present at many types of industrial facilities. Explosions may occur if the flammable/explosive vapors came into contact with an ignition source. An explosion could cause impacts to individuals and structures in the area due to overpressure.

For all affected facilities, risks to the public are reduced if there is a buffer zone between industrial processes and residences or other sensitive land uses, or the prevailing wind blows away from residential areas and other sensitive land uses. The risks posed by operations at each facility are unique and determined by a variety of factors. The areas affected by the proposed amendment are typically located in industrial areas.

Regulatory Background

There are many federal and state rules and regulations that facilities handling hazardous materials must comply with which serve to minimize the potential impacts associated with hazards at these facilities.

Under the Occupational Safety and Health Administration (OSHA) regulations [29 Code of Federal Regulations (CFR) Part 1910], facilities which use, store, manufacture, handle, process, or move highly hazardous materials must prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and Title 8 of the California Code of Regulations, General Industry Safety Order §5189, specify required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program.

Affected facilities that store materials are required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 Code of Federal Regulations, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

The Hazardous Materials Transportation (HMT) Act is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration. The HMT Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). The California Department of Transportation (Caltrans) sets standards for trucks in California. The regulations are enforced by the California Highway Patrol.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a business plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

Contra Costa County has adopted an industrial safety ordinance that addresses the human factors that lead to accidents. The ordinance requires stationary sources to develop a written human factors program that considers human factors as part of process hazards analyses, incident investigations, training, operating procedures, among others.

Discussion of Impacts

VIII a - c. Regulation 9-10 would provide an alternative compliance strategy for existing pre-1994 heaters at petroleum refineries operating in the Bay Area. Major modifications are not expected to be required at the existing refineries. If refineries choose to pursue the alternative standard, the alternative standard would not require retrofitting of existing control equipment. Additional CEMS would be required on existing heaters. The use of additional monitoring equipment would not introduce, utilize, or generate new hazardous materials at the affected petroleum refineries.

Existing refinery operations are not expected to change from current practice and, thus, the amount of hazardous materials used or transported is not expected to change. As the throughput is not expected to change at the refineries as a result of implementing Regulation 9-10, no additional transport of the hazardous materials is expected and, thus, no new hazards to the public will be created through transport, use, or disposal of hazardous materials. As a result, the proposed amendment is not expected to increase the probability of a hazardous material release. Local fire department and OSHA regulations coupled with standard operating practices ensure that conditions are in place to protect against hazard impacts. Therefore, no significant impacts on hazards are expected.

VIII d. No impacts on hazardous material sites are anticipated from the proposed amendment that would apply to existing operations at petroleum refineries within the District's jurisdiction. Some of the affected refineries may be located on the hazardous materials sites list pursuant to Government Code §65962.5. However, the proposed amendment would have no effect on hazardous materials nor would the rules create a significant hazard to the public or environment. The affected refineries already exist and are located within the confines of existing industrial facilities and no major construction activities are expected to be required. The proposed project neither requires, nor is likely to result in, activities that would affect hazardous materials or existing site contamination. Therefore, no significant adverse impacts on hazards are expected.

VIII e – f. No impacts on airports or airport land use plans are anticipated from the proposed rule amendments, which would apply to existing petroleum refineries. The refineries already exist and are located within the confines industrial facilities. If refineries choose to pursue the alternative standard, the alternative standard would not require retrofitting of existing control equipment. The amendments would require the installation of additional CEMS. These changes are expected to be made with the confines of the existing refineries. No development outside of existing facilities is expected to be required by the proposed amendment. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

VIII g. No impacts on emergency response plans are anticipated from the proposed amendment that would apply to existing petroleum refineries. The refining operations already exist and are located within the confines of existing industrial facilities. The proposed amendment neither requires, nor is likely to result in, activities that would impact the emergency response plan, and any new development would consider emergency response as part of the City/County General Plans prior to approval. The affected facilities already store and transport hazardous materials, so emergency response plans already include hazards associated with potential incidents. Therefore, no significant adverse impacts on emergency response plans are expected.

VIII h. No increase in hazards related to wildfires is anticipated from the proposed amendment. The petroleum refining operations affected by the proposed amendment already exist and are located within the confines of existing industrial facilities. Native vegetation has been removed from the operating portions of the refineries to minimize fire hazards. Any modifications will occur within the confines of the existing facilities. Therefore, no increase in exposure to wildfires will occur due to the proposed amendment.

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed amendment to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY and WATER QUALITY.					
Would the project:					
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☐	☑
e)	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☑
g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☑

i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and affected environment vary substantially throughout the area and include commercial, industrial, residential, agricultural, and open space uses.

The petroleum refining facilities affected by the proposed rule amendment are located in Contra Costa and Solano counties. Affected areas are generally surrounded by other industrial or commercial facilities. Reservoirs and drainage streams are located throughout the area and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located throughout the Bay Area.

The affected areas are located within the San Francisco Bay Area Hydrologic Basin. The primary regional groundwater water-bearing formations include the recent and Pleistocene (up to two million years old) alluvial deposits and the Pleistocene Huichica formation. Salinity within the unconfined alluvium appears to increase with depth to at least 300 feet. Water of the Huichica formation tends to be soft and relatively high in bicarbonate, although usable for domestic and irrigation needs.

Regulatory Background

The Federal Clean Water Act of 1972 primarily establishes regulations for pollutant discharges into surface waters in order to protect and maintain the quality and integrity of the nation's waters. This Act requires industries that discharge wastewater to municipal sewer systems to meet pretreatment standards. The regulations authorize the U.S. EPA to set the pretreatment standards. The regulations also allow the local treatment plants to set more stringent wastewater discharge requirements, if necessary, to meet local conditions.

The 1987 amendments to the Clean Water Act enabled the U.S. EPA to regulate, under the National Pollutant Discharge Elimination System (NPDES) program, discharges from industries and large municipal sewer systems. The U.S. EPA set initial permit application requirements in 1990. The State of California, through the State Water Resources Control Board, has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

The Porter-Cologne Water Quality Act is California's primary water quality control law. It implements the state's responsibilities under the Federal Clean Water Act but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm water discharge permits. The water quality in the Bay Area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

In response to the Federal Act, the State Water Resources Control Board is required to develop, adopt, and implement a Basin Plan for the Region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the Region. The San Francisco Bay Basin Plan identifies the: (1) beneficial water uses that need to be protected; (2) the water quality objectives needed to protect the designated beneficial water uses; and (3) strategies and time schedules for achieving the water quality objectives (RWQCB, 2011). The first comprehensive Basin Plan for the San Francisco Bay Region was adopted and approved in April 1975. Subsequently, major revisions were adopted in 1982, 1986, 1992, 1995, 2002, 2004, and 2011. The beneficial uses of the Carquinez Strait, San Pablo Bay, and Suisun Bay that must be protected which include water contact and non-contact recreation, navigation, ocean commercial and sport fishing, wildlife habitat, estuarine habitat, fish spawning and migration, industrial process and service supply, and preservation of rare and endangered species.

Discussion of Impacts

IX a, f. No significant adverse impacts on hydrology and water quality resources are anticipated from the proposed rule amendment, which would apply to existing petroleum refining facilities. The proposed rule amendment is not expected to require additional water use and no increase in wastewater discharge is expected. Therefore, no violation of any water quality standards or waste discharge requirements, and no decrease in water quality is expected from the proposed amendment to Regulation 9-10.

IX b. The pre-1994 heaters affected by the proposed rule amendments already exist and are located within the confines of existing petroleum refining facilities. The proposed amendment to Regulation 9-10 is not expected to require additional water use. In the unlikely event a refinery choses to install NOx control technologies (e.g., SCR and SNCR equipment), those technologies do not require additional use of water. Therefore, the proposed amendment is not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the proposed amendment to Regulation 9-10.

IX c - f. Petroleum refining facilities would have the option to comply with the optional emission standard amendment to Regulation 9-10 by replacing the current daily, average emission rate limit of 0.033 lb NOx/MM BTU with a total mass emission limit. Any refinery modifications to comply with the requirement for additional CEMS are expected to be minor. All affected equipment is located within existing refineries, where storm water drainage has been controlled and no construction activities outside of the existing refineries is expected to be required. Therefore, the proposed amendments are not expected to substantially alter the existing drainage or drainage patterns, result in erosion or siltation, alter the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite. Nor are the proposed amendments expected to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The proposed amendment is not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

IX g – i. The pre-1994 heaters affected by the proposed rule amendment are located within existing refineries. No construction activities outside the boundaries of existing facilities are expected due to the adoption of the proposed amendments to Regulation 9-10. Petroleum refining facilities are generally located to avoid flood zone areas and other areas subject to flooding. Further, storm water is controlled and collected onsite for analysis and subsequent discharge. The proposed amendments are not expected to require any substantial construction activities, place any additional structures within 100-year flood zones, or other areas subject to flooding. Therefore, no significant adverse impacts due to flooding are expected.

IX j. The petroleum refining facilities affected by the proposed rule amendments are located within existing refineries. Any refinery modifications to comply with the requirement for additional CEMS are expected to be minor. No construction activities are expected outside of the boundaries of the existing refinery facilities. The proposed amendments are not expected to place any additional structures within areas subject to inundation by seiche, tsunami or mudflow. Therefore, no significant adverse impacts on hydrology/water due to seiche, tsunami or mudflow are expected.

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed amendment to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**LAND USE and PLANNING.** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to a general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The refineries affected by the proposed rule amendment are primarily located in industrial areas of Contra Costa and Solano counties.

Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

X a-c. The pre-1994 heaters affected by the proposed rule amendment already exist and are located within the confines of existing petroleum refining facilities within existing industrial areas. The refineries would have the option to comply with the emission limitations of Regulation 9-10 by replacing the current daily, average emission rate limit of 0.033 lb NOx/MM BTU with a total mass emission limit. Refinery modifications are expected to be minor, e.g. installation of additional CEMS. Any construction activities associated with the proposed project are expected to occur within the confines of the existing refineries within existing industrial areas. No new construction outside of the confines of the existing facilities is expected to be required due to the adoption of the proposed amendment to Regulation 9-10. Therefore, the proposed amendments would not divide an established community or conflict with land use plans/policies. Further, the operating portions of refineries are not

located within habitat conservation or natural community conservation plans, therefore, the proposed project will not conflict with any such plans.

Based upon these considerations, no significant adverse land use impacts are expected from the implementation of the proposed amendment to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refineries affected by the proposed rule amendment are located in Contra Costa and Solano counties.

Regulatory Background

Mineral resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

XI a-b. The pre-1994 heaters affected by the proposed rule amendment already exist and are located within the confines of existing petroleum refining facilities. Any modifications, e.g. installation of additional CEMS, associated with the proposed project are expected to be installed within the confines of existing facilities. The proposed rule amendment is not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts on mineral resources are expected.

Based upon these considerations, significant mineral resource impacts are not expected from the implementation of the proposed rule amendment.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE. Would the project:					
a)	Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b)	Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refineries affected by the proposed rule amendment are located in industrial areas of Contra Costa and Solano counties.

Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plans and noise ordinances generally establish

allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

Discussion of Impacts

XII a-d. The existing noise environment at each of the affected refinery facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. The pre-1994 heaters affected by the proposed rule amendment already exist and are located within the confines of existing petroleum refining facilities. The rule amendment applies to NOx emissions from this equipment. The refineries would have the option to comply with the optional emission standard amendment to Regulation 9-10 by replacing the current daily, average emission rate limit of 0.033 lb NOx/MM BTU with a total mass emission limit. The rule would require the installation of additional CEMS, however, no major construction activities are expected to be required. Any noise generated during the construction is expected to be minimal and occur during daylight hours. Noise related to construction activities would cease following completion of the construction phase. The CEMS do not generate noise when operating.

It is not expected that any modifications associated with the proposed project would substantially increase ambient operational noise levels in the area, either permanently or intermittently, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels. Noise from the proposed project is not expected to produce noise in excess of current operations at each of the existing refineries, as equipment that could be added to the refineries is not a source of noise, e.g, monitoring equipment. It is expected that each refinery affected by the proposed amendments would comply with all existing noise control laws or ordinances. Further, OSHA and California-OSHA (Cal/OSHA) have established noise standards to protect worker health. Any potential noise increases are expected to be small, if at all, and thus less than significant. The proposed rule amendment would not substantially increase ambient noise levels from stationary sources, either intermittently or permanently. Therefore, noise impacts associated with the proposed amendments are expected to be less than significant.

It is also not anticipated that modification associated with the proposed project will cause an increase in groundborne vibration levels because air pollution monitoring equipment (CEMS) is not vibration intensive equipment. Consequently, the proposed rule amendment will not directly or indirectly cause substantial noise or excessive groundborne vibration impacts.

XII. e-f. If applicable, the refineries would still be expected to comply, and not interfere, with any applicable airport land use plans. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses.

Based upon these considerations, significant noise impacts are not expected from the implementation of the proposed amendment to Regulation 9-10.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION and HOUSING. Would the project:				
a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The areas affected by the proposed rule amendment are located in industrial areas of Solano and Contra Costa counties.

Regulatory Background

Population and housing growth and resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

XIII. a. Any construction activities associated with the proposed rule amendment at each affected refinery are not expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. The reason for this conclusion is that operators of affected facilities who need to perform any construction activities to comply with the proposed rule amendment can draw from the existing labor pool in the local Bay Area, as no major construction activities would be required. Further, it is not expected that modifications to existing refineries will require new employees to operate the modified equipment, including additional CEMS. Human population within the jurisdiction of the BAAQMD is anticipated to grow regardless of implementing the proposed project. As a result, the proposed rule amendment is not anticipated to generate any

significant adverse effects, either direct or indirect, on population growth in the district or population distribution.

XIII b-c. Because the proposed rule amendment includes modifications and/or changes at existing refineries located in industrial settings, it is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed amendment to Regulation 9-10.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refineries affected by the proposed rule amendment are located in industrial areas of Contra Costa and Solano counties.

Given the large area covered by the BAAQMD, public services are provided by a wide variety of local agencies. Fire protection and police protection/law enforcement services within the BAAQMD are provided by various districts, organizations, and agencies. There are several school districts, private schools, and park departments within the BAAQMD. Public facilities within the BAAQMD are managed by different county, city, and special-use districts.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate public services are maintained within the local jurisdiction.

Discussion of Impacts

XIV a. Implementation of the proposed rule amendment may result in minor modifications at the affected refineries, e.g., installation of monitoring equipment (CEMS). The proposed project is not expected to significantly affect fire service because of the proposed amendments would not introduce any new hazards and, therefore, would not increase the need for fire department response at the

refineries. Further, the refineries are completely enclosed and access is limited to manned gates on a 24-hour basis. Therefore, the proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments, police departments, government, et cetera) above current levels.

As noted in the "Population and Housing" discussion above, the proposed project is not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any construction activities that may be necessary at affected facilities and operation of new or modified equipment is not expected to require additional employees. Therefore, there will be no increase in local population and thus no impacts are expected to local schools or parks.

Based upon these considerations, significant public services impacts are not expected from the implementation of the proposed rule amendment.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that there are numerous areas for recreational activities. The refineries affected by the proposed rule amendment are located in industrial areas of Contra Costa and Solano counties. Public recreational land can be located adjacent to, or in reasonable proximity to these areas.

Regulatory Background

Recreational areas are generally protected and regulated by the City and/or County General Plans at the local level through land use and zoning requirements. Some parks and recreation areas are designated and protected by state and federal regulations.

Discussion of Impacts

XV a-b. As discussed under "Land Use" above, there are no provisions of the proposed amendment that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed amendment. Any required modifications would occur within the confines of the existing refineries so no changes in land use would be required. Further, the proposed amendment would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the proposed amendment is not expected to induce population growth. Therefore, no significant adverse impacts on recreation are expected.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed rule amendment.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☑	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established b the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The Port of Oakland and three international airports in the area serve as hubs for commerce and transportation. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The Bay Area contains over 19,600 miles of local streets and roads, and over 1,400 miles of state highways. In addition, there are over 9,040 transit route miles of services including rapid rail, light rail, commuter, diesel and electric buses, cable cars, and ferries. The Bay Area also has an extensive local system of bicycle routes and pedestrian paths and sidewalks. At a regional level, the share of workers driving alone was about 68 percent in 2007. The portion of commuters that carpool was about 10 percent in 2007. About 4 percent of commuters walked to work in 2007. In addition, other modes of travel (bicycle, motorcycle, etc.), account for 3 percent of commuters in 2007 (MTC, 2008). Cars, buses, and commercial vehicles travel about 145 million miles a day (2000) on the Bay Area Freeways and local roads. Transit serves about 1.6 million riders on the average weekday (MTC, 2008).

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west, and cross San Francisco Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. Interstate 780 is a four lane, east-west freeway extending from the Benicia-Martinez Bridge west to I-80 in Vallejo.

Regulatory Background

Transportation planning is usually conducted at the state and county level. Planning for interstate highways is generally done by the California Department of Transportation.

Most local counties maintain a transportation agency that has the duties of transportation planning and administration of improvement projects within the county and implements the Transportation Improvement and Growth Management Program, and the congestion management plans (CMPs). The CMP identifies a system of state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

Discussion of Impacts

XVI a-b. Construction activities resulting from implementation of the proposed amendment to Regulation 9-10 are expected to be minor, including installation of additional CEMS, and therefore any increase in traffic is also expected to be temporary and minor, e.g., two to four additional trips per day. The proposed amendments are not expected to cause a significant increase in traffic at any refinery or

require any additional permanent employees. Also, the proposed project is not expected to exceed, either individually or cumulatively, the current level of service at streets and intersections in areas surrounding the refineries. The work force at each affected refinery is not expected to significantly increase as a result of the proposed rule amendment and no increase in operation-related traffic is expected. Thus, the traffic impacts associated with the proposed rule amendment is expected to be less than significant.

XVI c. Though some of the facilities that will be affected by the proposed amendment may be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, actions that would be taken to comply with the proposed amendment, such as installing new continuous monitoring equipment, are not expected to significantly influence or affect air traffic patterns. Further, the size and type of equipment that would be installed would not affect navigable air space. Thus, the proposed amendments would not result in a change in air traffic patterns including an increase in traffic levels or a change in location that results in substantial safety risks.

XVI d - e. The proposed amendment will not alter traffic patterns or existing roadways. The proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected refineries. All construction activities, if necessary, will occur within the confines of the existing refineries. Aside from the temporary effects due to a slight increase in traffic for those facilities that will undergo construction activities, generally from the installation of additional CEMS, the proposed amendments is not expected to alter the existing long-term circulation patterns. The proposed amendments would not require any street modifications or improvements, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed amendment does not involve construction of any roadways, so there would be no increase in roadway design feature that could increase traffic hazards. Emergency access at each affected refinery is not expected to be impacted by the proposed amendments or require construction that could interfere with any existing emergency access. Further, each affected facility is expected to continue to maintain their existing emergency access gates and will not be impacted by the proposed rule amendments.

XVI f. Construction and operation activities resulting from the proposed rule amendment are not expected to conflict with policies supporting alternative transportation since the proposed project does not involve or affect alternative transportation modes (e.g. bicycles or buses) because the construction and operation activities related to the proposed project will occur solely within the confines of existing refineries.

Based upon these considerations, significant transportation/traffic impacts are not expected from the implementation of the proposed rule amendment.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. UTILITIES/SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The affected refineries have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to refineries by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities, and at disposal sites.

Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; Laidlaw Environmental Services located in Lake Point, Utah; Envirosafe Services, in Grandview, Idaho; Chemical Waste Management Inc. in Carlyss, Louisiana, and Waste Control Specialists in Andrews, Texas. Incineration is provided at Laidlaw Environmental Services, Inc., located in Deer Park, Texas.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate utilities and service systems are maintained within the local jurisdiction.

Discussion of Impacts

XVII a, b, d and e. The pre-1994 heaters affected by the proposed rule amendment already exist and are located within the confines of existing petroleum refining facilities. Any modifications, e.g. installation of additional CEMS, would occur within the confines of the existing refineries. The proposed rule amendment would not result in the use of any additional water or an increase in any wastewater generated at the refineries. No increase in water consumption would be associated with monitoring equipment. Therefore, no impacts on wastewater treatment requirements or wastewater treatment facilities are expected.

XVII c. Petroleum refining facilities would have the option to comply with the optional emission standard amendment to Regulation 9-10 by replacing the current daily, average emission rate limit of 0.033 lb NOx/MM BTU with a total mass emission limit, with refinery modifications expected to be minor, e.g. installation of monitoring equipment. Therefore, the proposed amendment is not expected to alter the existing drainage or require the construction of new storm water drainage facilities. Nor is the proposed amendment expected to create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

XVII f and g. The proposed rule amendment would not affect the ability of petroleum refining facilities to comply with federal, state, and local statutes and regulations related to solid waste. No significant impacts on waste generation are expected from the proposed rule amendment, since the proposed amendment is not expected to require major construction or demolition activities. Minor construction may occur to install additional CEMS, but waste associated with this construction should be minor. Any waste generation from equipment subject to Regulation 9-10 would likely occur regardless of the proposed amendments. Metals are usually recycled so no significant impact to land disposal facilities would be expected. Therefore, no significant impacts to hazardous or solid waste disposal facilities are expected due to the proposed rule amendment. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Based upon these considerations, significant impacts to utilities and service systems are not expected from the implementation of the proposed amendment to Regulation 9-10.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☐	☑
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Discussion of Impacts

XVIII a. The proposed amendment to Regulation 9-10 does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed rule amendment is expected to provide refineries with an alternative compliance mechanism for pre-1994 heaters and boilers, potentially removing regulatory obstacles to further reduce NOx emissions from petroleum refining facilities, thus providing a beneficial air quality impact and improvement in air quality. The proposed amendment will also require that additional CEMS be installed to monitor NOx emissions. Any modifications would occur within the confines of an existing refinery which has already been graded and disturbed. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

XVIII b-c. The proposed rule amendment is expected to provide refineries with an alternative compliance mechanism for pre-1994 heaters and boilers, potentially removing regulatory obstacles to further reduce NOx emissions from petroleum refining facilities, thus providing a beneficial air quality impact and improvement in air quality. Therefore, no significant adverse cumulative air quality impacts are expected. The proposed rule amendment is part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule amendment does not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed amendment to Regulation 9-10 is not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

Chapter 4

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